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NEWS SUMMARY

THE ROYAL ARCHITECTURAL INSTITUTE OF CANADA has elected the Secretary RIBA an Hon. Corresponding Member. p 572

CANDID COMMENT on some of Norwich's new architecture is contained in an article by J. Fletcher Watson which introduces the setting for the Architects' Conference. p. 573

RIBA COUNCIL has approved a proposal that "explanatory drawings" should accompany bills of quantities at the time of tendering. p. 597

A REPORT on architectural control under the Town and Country Planning Act, 1947, prepared by the RIBA, draws attention to notable weaknesses in aesthetic controls, and suggests remedies which include the employment by planning authorities of qualified architects. p. 597

THE OPINION that where Government departments are interested in the subject of a planning inquiry they should put their views before it in precisely the same way as does any interested party, is put forward in evidence submitted by the TCPA to a Committee of Inquiry. p. 598

A BRS SURVEY of the annual costs of maintaining contractors' mechanical plant is printed. p. 600

MINING SUBSIDENCE AND BUILDINGS

IT is excellent news that the Government have decided to introduce legislation to mitigate the hardships resulting from coal mining subsidence. Mr. Aubrey Jones, the Minister of Fuel and Power, recently told the House of Commons that the Government had come to the conclusion that where, as the law now stands, surface interests have no right to compensation, the National Coal Board should be obliged to make good physical damage to land, buildings, service lines and pipes—or make a reasonable payment. The surface interests concerned would include owners of agricultural land and local authorities, and provision would be made to deal with the problems of drainage authorities including river boards. The cost of all this is expected to be about £5 million a year or 6d. a ton of coal mined, and it appears from the Minister's announcement that the Coal Board will have to meet the whole cost without the aid of a subsidy.

The Minister's announcement has wider implications than the merely financial. The Turner Committee on Mining Subsidence, which reported in 1949, emphasised the wider implications in no uncertain terms: "A community in one of our coalfields can suffer not only physical but serious moral and psychological effects from subsidence. It can and sometimes does happen that a centre of community life such as a vital municipal building or a church is damaged seriously, or possibly even irretrievably, by subsidence. In such a case it is easy to imagine, but difficult to measure in terms of financial compensation, the effect upon community life; that that effect may have more importance for the nation than the getting of many tons of coal."

In the light of this statement, it was natural that the Turner Committee should recommend that compensation should be provided for all surface interests which suffer damage from coal mining subsidence. The only immediate result, however, was the passing of the Coal Mining (Subsidence) Act, 1950, which provided a statutory right of compensation for all dwelling houses with a rateable value not exceeding £32 in England and Wales or £52 in Scotland. The figure of £32 has been raised to £50 with effect from April 1, 1956, in order to take account of the new valuation lists.

The reason given by the Government in 1950 for limiting the new statutory right of compensation in this way was that "legislation to implement the whole of the committee's recommendations would involve a number of difficult administrative problems and would have far-reaching financial implications which require further study." Even now, however, Mr. Aubrey Jones has not disclosed the Government's attitude to the committee's recommendations as a whole. These recommendations went very much further than the proposals that all surface interests should have a statutory right of compensation. Of especial interest to the building industry was the proposal that there should be a further scientific study of structural precautions and ultimately a comprehensive building code for the coalmining areas. Architects and others would naturally like to know whether there has been any further progress in this direction; if there is any prospect of a comprehensive building code in the near future, it will be necessary to consider how such a code is to be enforced, and whether building owners will be compensated for any additional costs. Again, the Turner Committee made the revolutionary suggestion that in general the right of support should be abolished, except for buildings which play so vital a part in the life of the community that the risk of interruption of their functions or serious damage to their structure could not be tolerated; the only other exceptions which the committee contemplated were buildings forming part of the historic or aesthetic heritage of the nation.

On all these points the Minister of Fuel was silent. If there are to be radical changes of this type, the Government should announce them as soon as possible and not wait until publication of the Bill. The Government can rely on the support of the building industry for any changes of this sort which may be in the national interest, but there should be the fullest possible public discussion beforehand.

Notes of the Week

Barred at Stratford?

THE planning inquiry held a fortnight ago by the MoHLG Inspector into the proposal to erect a house on a site adjoining the thatched cottages in Tavern-lane, Shottery, Stratford-upon-Avon, produced another example of the distrust in which laymen too often hold contemporary architecture. The whole weight of the town council and local residents' opinions has been thrown against the proposal, and every conceivable argument short of stating that the Bard would turn in his grave (and this only, we imagine, because no one is prepared to commit himself on whether the name is Marlowe or Bacon) has been advanced in favour of doing nothing. The opposition's argument can be summed up in the words of Mr. P. C. Smart, the Borough Engineer, " it is difficult to mix contemporary design with the existing buildings, many of which are extremely old." To this the Inspector, Mr. V. L. Nash, FRIBA, AMTPI, replied that to him that view was architectural heresy. " If it is indeed the case that open land must necessarily be spoilt by the erection of buildings," he added, " architects may as well give up."

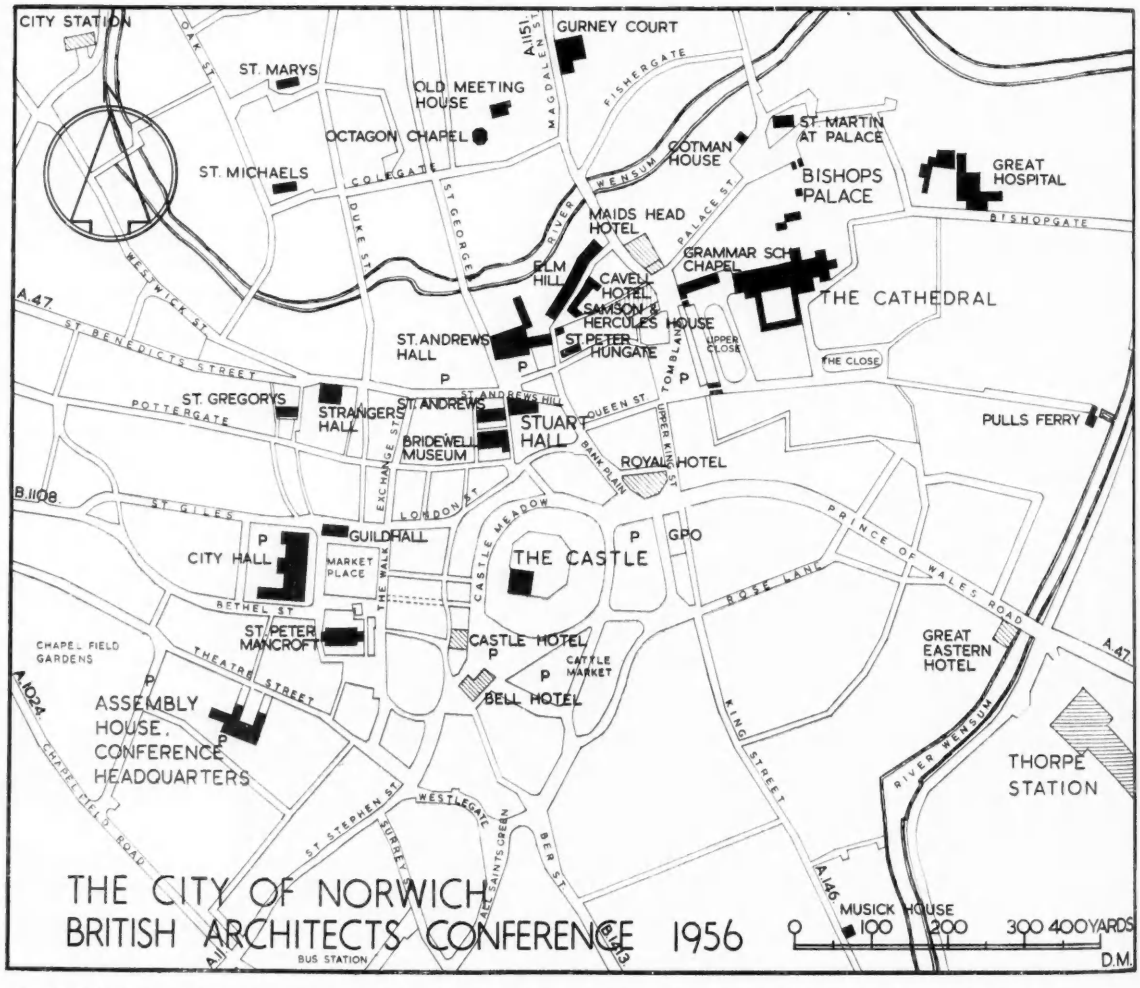
One interesting thing about the opposition's case is that it was put forward in general terms ; no design for the house has as yet been prepared. In all probability the same arguments were advanced when the existing cottages in Tavern-lane elbowed out the former wattle-and-daub huts. While having much sympathy with those who wish to retain the *status quo*, we should find it easier to understand opposition based on a particular design than on a general principle which, if followed blindly, would reduce architecture to the level of a museum piece.

Hon. Correspondent

THE Royal Architectural Institute of Canada have paid a nice compliment to " Bill " Spragg, Secretary of the RIBA, in electing him one of the first Honorary Corresponding Members of their Institute. This is a new class of membership made possible by a recent amendment by the Canadian Parliament to the Act of Incorporation by which architects and others residing outside Canada who are interested in architecture and things to do with the architectural profession may become life honorary correspondents.

Plan for St. Paul's

THERE will be general relief at the news that Sir William Holford's plan for the precinct for St. Paul's Cathedral is under urgent consideration by the City Corporation and the LCC planning committee. This news was given last week by Mr. Anthony Mealand, the City Planning Officer, who said that everyone was pressing for the discussions to be hurried on but that the plan must go through the normal channels. It was hoped, he said, to complete those discussions before the Council adjourned for the summer recess, and it would then be placed before the Minister of Housing and Local Government in final form. We shall hope that this may be so. There would seem to be a remarkable consensus of opinion in favour of the general lines of the plan, though there are points of detail not small in themselves—notably perhaps the sense of over-enclosure from the south and west sides, which some critics consider unnecessarily overpowering—which need close study. The important thing is that the right decision be made quickly before continued piecemeal development makes any plan useless. Already there is much building work in hand which may prevent a workable scheme, while developers also have their rights.



The British Architects' Conference Plan of Norwich. The programme for the Conference (which opens on May 30) is on page 579.

In and About Norwich

By J. FLETCHER WATSON

The watercolour drawings are by the author

GEOGRAPHICALLY Norfolk is so out of the way that some architects and others coming to this year's Conference may well be seeing Norfolk for the first time. The fact that Norfolk is rather remote is very largely responsible for the fact that much of the county is still unspoilt as compared with other counties which have large trunk roads passing through them and so foster ribbon development and industrial growth generally.

Norfolk has always been and still is very much a farming county, this being by far its largest industry, and the various places to be visited on the tours make this point evident. Unspoilt country villages and farmhouses, larger houses belonging to the country gentlemen-farmers and even the largest mansions such as Holkham, where lived the great Cooke of Norfolk with his advanced theories on farming, are clear evidence of the predominant farming interests of the county and the influence that farming has had on the architecture generally. It has been a happy influence in that it has saved the landscape from the overwhelming growth of bad buildings associated with the Victorian Industrial Revolution.

Dutch Influence

More noticeable probably in Norfolk than in any other county in England is the strong Dutch influence. From the earliest times traders from Holland have come to Norfolk, and in Tudor times a large Dutch community settled in the county and in Norwich itself. Many became rich merchants, weavers, wool manufacturers, etc., and the delightful curved brick gable ends which one sees on so many country houses and farm buildings are very similar indeed to sixteenth- and seventeenth-century buildings which abound in the Netherlands.

Tour No. 1. Blickling

The first tour which the Conference hosts, the Norfolk and Norwich Society of Architects, have arranged for Friday next is a visit to Blickling Hall, one of the loveliest houses in England, and here we shall see full use of the Dutch gable. The route from Norwich passes through the attractive little market town of Aylsham which abounds in brick houses with steep pantile roofs and a variety of attractive brick gables. There are so many pleasant houses in and around this town that it could easily be the subject of a separate full-day tour. Humphrey Repton, the eighteenth-century English landscape gardener, who started his life in Norfolk, is buried in the churchyard.

Two miles beyond Aylsham one comes to Blickling Hall on the right; as it is completely open to the main road, the whole building is seen immediately on arrival, unlike many large Norfolk country houses which are approached down a long and winding drive through a park of ancient trees. There is no time for anticipation with Blickling, for as one passes the church and a group of trees, this great house suddenly bursts into view as a complete surprise, as if a curtain in the theatre is raised.

Outstanding Layout

Jacobean in period, there are many lessons which can be learnt by architects from this house. Its position in relation to its surroundings is an outstanding and skilful example of siting and layout. Two flanking stable buildings of three storeys, each with its four curved gables and enormous yew hedges carefully clipped, emphasise in a superb manner the perspective and approach to the front of the house. Colour plays its important part: the light green of the grass, the very dark green of the yew hedges, the pinky brick, mellowed in the course of 300 years, and the dark green of the trees form a background to the house—and all combine to give a superbly blended harmony.

Further architectural items, usually so lacking in the architecture of to-day, are the questions of texture and sky line. Note the 2-in. bricks with the wide light-coloured joints, and the carved ornamentation above the central door and over the upper windows—just sufficient to give interest without overdoing it and making it commonplace. Corner turrets, central clock tower and tall chimneys break up an otherwise straight ridge in a very happy and balanced way.

Tour No. 2. Cawston and Salle

South-west of Blickling lie the two unassuming little hamlets of Cawston and Salle. The former has a population of 1,009 persons, and the latter of 168, yet these villages possess two of the largest and most splendid fifteenth-century churches in Norfolk, and these churches have been chosen for the second tour.

St. Agnes' Church, Cawston, has an unusual tower for a Norfolk church. It is faced entirely in dressed ashlar with Caen stone brought from Normandy, and at the top there is no parapet, which gives rather a severe and unfinished appearance. It is probable that a more elaborate finish was originally contemplated as the buttresses are carried up to the top and are capable of supporting quite a large feature. According to history, the tower was almost completely finished in the late fourteenth century by the first Earl of Suffolk before the remainder of the church was started, and this may explain the very noticeable difference in building material between tower and nave. The latter is built of flint with stone quoins in the manner of most Norfolk churches, and is of fifteenth-century date.

Probably the most interesting feature of the church is the extremely fine hammer-beam roof. The fifteenth-century rood screen retains many of its original painted figures, and running ornament and the central screen doors are still intact which is rarely found to be the case.

Those interested in history may note that one of the few recorded duels with swords took place not very far from this village on August 20, 1698, where there is a small stone monument in the little copse by the Woodrow Inn.

We proceed to Salle by way of Salle Park, and the simple but dignified late Georgian house which is the seat of Sir Dymoke White. This house was built in

Blickling Hall.

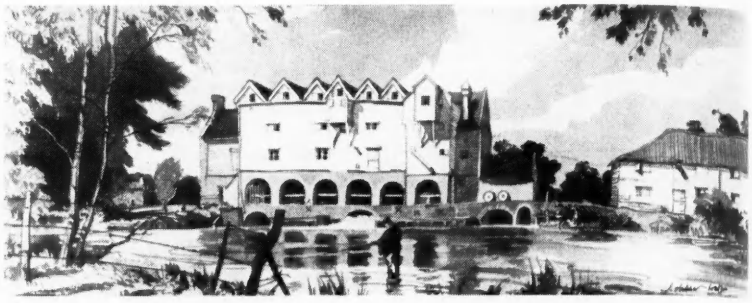
1761 by the little-known architect, Edward Hase, and a very delightful monochrome drawing of it by J. S. Cotman exists in the RIBA library.

Coming now to Salle Church, we find an almost equally large building capable of seating about 600 people; the difficulty of upkeep and maintenance can be appreciated when one realises that the parish consists of under 200 souls. What is interesting is that this village, according to records, has never been larger and the reason for such a large church is not, therefore, a matter of meeting a demand for greater seating capacity, but the desire on the part of the rich and, no doubt, virtuous merchants and country gentlemen of those days to erect the largest and finest building they possibly could. There were, of course, many flourishing weavers in the locality who would undoubtedly make large contributions for the building of their church, and principal amongst these was the Boleyn family who were to become the owners of Blickling after the original Hobarts.

Much of the stone of this church is Barnac brought all the way from Northamptonshire, and it may be noted that this stone is used on a great many church buildings in East Anglia, for there are no stone quarries in Norfolk to speak of. Externally the church is typical fifteenth-century work, and the tower has some splendid corner pinnacles; although about the same height within a few feet of Cawston tower, it is a more delicate and finished piece of design.

Daring Roof Construction

The nave roof is not of hammer-beam construction, but something very much more daring, although at first appearance it looks ordinary enough. There was no tie-beam whatsoever to this roof, and it probably existed for at least 300 years before any outward movement started to take place. Tie rods were added approximately 100 years ago. There is a very fine fifteenth-century "wine glass" pulpit, with a seventeenth-century canopy fixed to the stone column at the time when the pulpit was converted into a three-decker.



The Water Mill, Horstead.

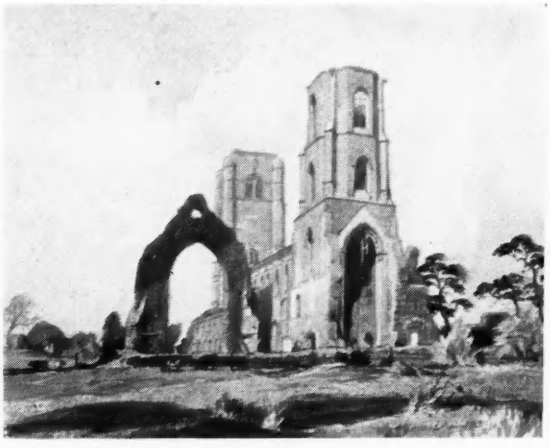
Ash Tree Farm : A Draining Mill.

Tours 3 and 4. The Broads

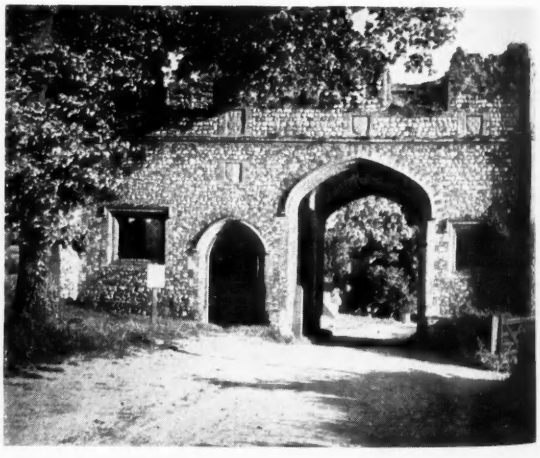
A visit to some of the Norfolk Broads has been planned for Tours Nos. 3 and 4. The Broads have a particular beauty all their own, and gay as they may be in the yachting season of July and August, they are undoubtedly seen at their best when they are empty of pleasure craft. They are the haunt of the bird watcher and the landscape painter at all times of the year, and the reeds which grow there are noted the world over for making the best thatched roofs. Houses and cottages of many of the villages in the vicinity of the Broads still have their steep reed-thatch roofs, and this is one of the reasons why so many of the older Norfolk cottages and farmhouses have these extremely steep pitches to their roofs, even though they are to-day covered with pantiles. Thatch was, of course, used extensively up to the end of the eighteenth century, but is now rapidly becoming a lost craft.

It is worth noting that, as a result of recent extensive research by experts, it has been almost proved that the Norfolk Broads are entirely man-made in origin—the result of extensive digging for peat which was required for house fuel. It was only when the level of the sea rose that these areas became flooded with water and have been lakes ever since.

One of the most attractive to be visited is Barton Broad with its fringe of reeds and pleasant groups of trees and stretches of marshland. It is one of the favourite haunts of wild fowl. The lofty flint tower of the church can be seen from the Broad, and this church is chiefly notable for having one of the few portraits of Henry VI painted on the fifteenth-century screen in the side aisle. The chancel screen is earlier still, being about 1350, and has extremely



Wymondham Abbey.



Castle Acre, the gatehouse

fine wooden carved tracery to its upper portion, and the lower panels are again painted with the figures of Saints and Angels.

Ludham and Ranworth

We leave the Broad by the narrow, twisting River Ant, and after four miles, pass under Ludham Bridge, where there is another small but architecturally rich fifteenth-century church with hammer-beam roof, painted screen, carved stalls, and so on. We next come to Ranworth Broad, where an even better screen awaits us in the little church which still retains its thatched roof. Although small in comparison with churches such as Salle or Cawston, Ranworth is in the most perfect condition and contains about the best example of fifteenth-century joinery and carving in Norfolk. The colouring of the Saints and Apostles and the Virgin and Child, there depicted, is also in an exceptionally good state of preservation, due to the fact that the screen was heavily whitewashed at the time of the Reformation and luckily escaped damage.

From Ranworth, it is only a mile or two along the twisting River Bure to the ruin of St. Benet's Abbey. This was a Benedictine Monastery, and is the oldest in Norfolk; it is unfortunate that so little of the ruins remain. What does exist is mainly the Gate House with its thirteenth-century arch and the old brick windmill built about the middle of the eighteenth century. When Cotman sketched this mill, there were sails on it, but even at that time, 1813, it was undoubtedly in rather a dilapidated state, and the sails have long since disappeared.

Drainage Mills

Nearly all the Norfolk Broads' draining windmills are out of action now and have been replaced with motor pumps, but a few of them still exist, and the sails of the white painted mill at Thurnemouth can still be seen turning and pumping the dyke water. It is the greatest pity that moderate sums of money were not spent on some of these drainage mills, so that more of them could be preserved and at the same time serve a useful purpose. They are part of the Broadland scene and atmosphere, and the day that the last mill disappears from the landscape will indeed be a sad one for Norfolk.

One building which will attract all architects is the large water mill at Horstead, built across the River Bure, about six miles upstream from Wroxham Broad. This village is easily accessible from Norwich, and anyone who has the time should certainly endeavour to inspect the mill. It is quite the finest in Norfolk and is an outstanding example of functional building.

Norwich Cathedral, from south-east.

Pulls Ferry, Norwich.

Tour No. 5. Holkham

In a county as large as Norfolk, it is difficult to chose, out of the great quantity of interesting buildings, which should be visited and which should be left out. One cannot, I think, quarrel with the choice for tour No. 5, which is the famous Holkham Hall.

Setting out from Norwich on the Fakenham Road we pass through the small village of Bawdeswell. It has only 376 inhabitants, but has two small claims to fame. First, Chaucer is believed to have passed this way and stayed at the attractive Elizabethan half-timbered house in the centre of the village.

Second, less important historically but perhaps more interesting architecturally, is the new church* just completed. The external walls are faced with Norfolk flint work, laid herringbone-wise in the manner of many Norfolk flint buildings which have been built during and since the sixteenth and seventeenth centuries. Internally, the church has a blue vaulted plaster ceiling, and the pews and three-decker pulpit are of oak, bleached white. An architectural paper recently commented on this building as "New Norfolk not New England," which is perhaps appropriate.

Three miles beyond Fakenham we come to a splendid Elizabethan brick house, "East Barsham Manor." The Gate House stands close to the road amongst trees, and it is, unfortunately, roofless to-day, but the deeply carved Royal Coat of Arms over the arch is all cut in the brickwork, and is an extremely interesting feature. In the summer the whole range of buildings could easily be missed,

* See *The Builder*, January 6, 1956.

lying in its peaceful valley surrounded by the lofty trees of the Park. It is altogether a fine example of the small manor house.

Holkham Great Park

The great Park of Holkham will be entered by the south gate, only two miles to the south-east of the village of Burnham Thorpe, famous as the birthplace of Nelson, It is said that William Kent, the architect of Holkham, was described by Horace Walpole as a " painter architect," and as we pass under the triumphal arch entrance, we begin to see the reason for this description in the vast deer park so beautifully laid out with its drives and vistas and artistic disposition of woods and avenues.

Thomas Cooke, First Earl of Leicester, started to build the house to the designs of Kent in 1735, and it was not all completed until about 1761, some 13 years after Kent's death. The design of the corner pavilions remind one of Kent's lovely Horse Guards buildings in Whitehall. The house is in a yellow-grey brick, which was made on the Holkham Estate. It had just come into fashion at this time, but one cannot help feeling that a red brick, such as was used by Inigo Jones at Raynham Hall, would have made Holkham look very much more attractive.

Be that as it may, the house is a splendid example of Kent's work with its formal symmetrical plan and main central block containing State Apartments designed to house the art collection brought back by its owner from Italy, and the four independent wings linked by corridors. Much of the furniture of the house was also designed by William Kent, and, of course, the pictures and the library are notably famous. Such features as the architraves and entablatures to the internal doors should be noted for their variety and rich carving; they are extremely pleasing examples of classic design and show a lighter and more delicate touch than is often seen in the work of Wren and Vanbrugh.

Wells, Blakeney and Cley

Leaving Holkham Park by the north-east gate, we join the coastal road and pass through the fishing village of Wells, with its attractive quay and straggling lines of fishermen's cottages with their steep pantile roofs with flint or brick walls. There is a distinctly Flemish touch about this village and this is equally apparent when we come to Blakeney, eight miles further on, where an unusual feature of the church is the second slender tower at the north-east of the chancel, used for shining a beacon light for ships at sea.

Two miles further eastwards, further along the coast road, is the village of Cley, if anything even more charming than Blakeney. Here we might almost be in a little village in Denmark. The church is built on the side of a small hill and forms a fascinating group with the adjoining cottages at the south end of the village.

Tour No. 6. Castle Acre

The last tour takes us to the famous ruin of Castle Acre Priory, by way of Dereham and Great Dunham, where is a rare Saxon church. Castle Acre is a village rich in antiquity and beauty where Saxon and Norman have left their mark. The ruined Priory has a magical charm as with all ruins, but this particular one is certainly the best in all Norfolk in pure attractiveness. It was a favourite sketching ground of the great Cotman. The builder was De Warrenne, who married the daughter of William the Conqueror and who also erected a castle for himself, though little of this remains. The gateway through which one enters the village is part of this castle and on the same site was originally a Roman camp of considerable size. And so home by Swaffham, Hingham (where Abraham Lincoln's forbear, a Norfolk weaver, was born), and Wymondham, where we find a medieval town of great character with several of the buildings constructed in half timber —an unusual material to find in Norfolk. The Abbey Church, with its hammer-beam fifteenth-century roof, perpendicular windows and ruined octagon east tower, is not quickly described. This tower was once the centre of a building twice the length in the days when it formed part of a large priory. A rare piece of church furniture is the large Dutch brass chandelier hanging in the north aisle.

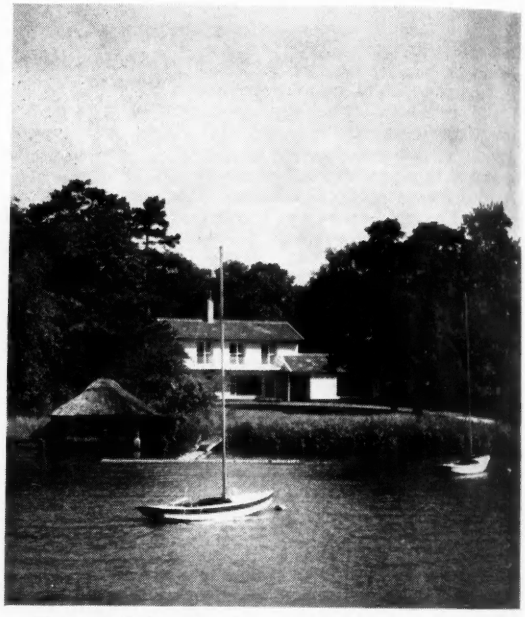
Space does not, unfortunately, allow for any other of Norfolk's old towns and buildings to be mentioned, and such gems as King's Lynn with its Custom House, a masterpiece by Bell, Raynham Hall, by Inigo Jones, or the great Houghton Hall, with its classical domes and colonnades, must be left for the visitor to discover another day.

Norwich

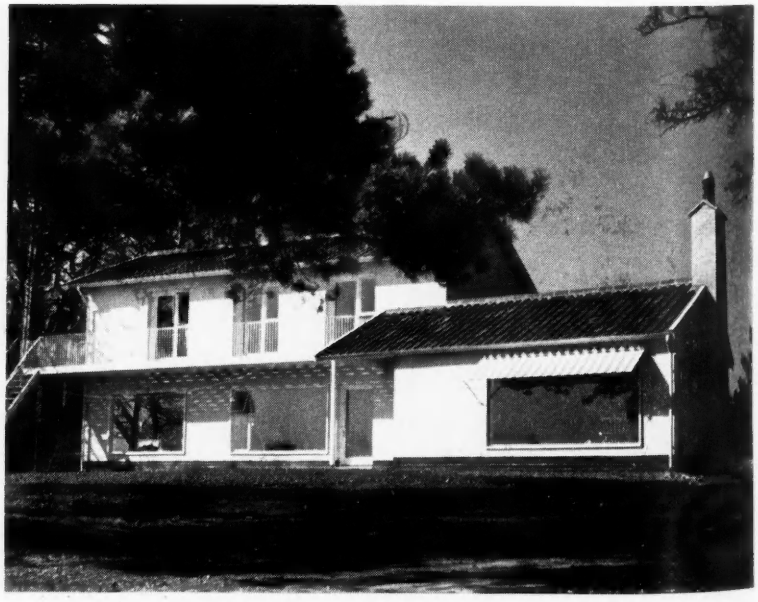
Most of the delegates to the Conference will be staying in Norwich, and a word must be said about the capital city of East Anglia.

The history of Norwich goes back 1,000 years, leaving in its wake a wonderful variety of buildings of all periods of architecture, and there can be no attempt here to make a full list of the buildings worthy of inspection, let alone to give comments about them.

Those who wish to see the best of Norwich in a short time are advised to



House at Oulton Broad.

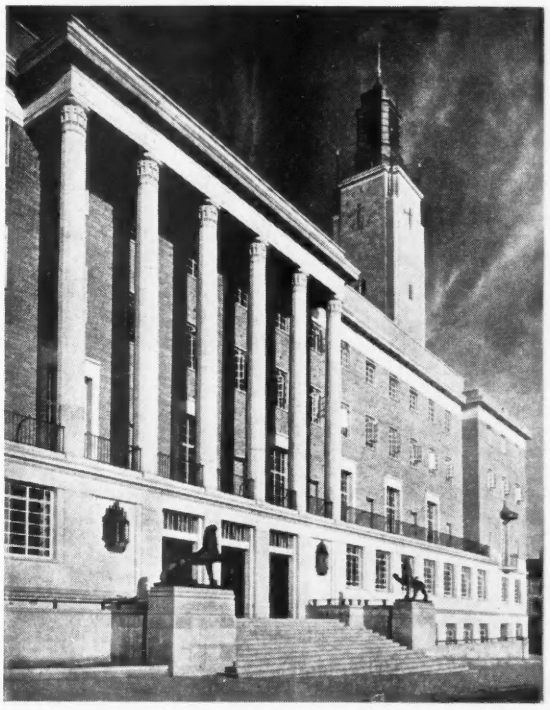


first proceed on foot into the cathedral Close and walk through it to the river. They will pass many attractive houses of the seventeenth and eighteenth centuries and even earlier, and when they arrive at the river there they will find a little piece of country in the heart of the City. The spot referred to is now known as Pulls Ferry and the Watergate. Passing under the Watergate arch, there was at the time when the cathedral was building, a canal running westward up the close to a point approximately level with the south transept. This canal was specially constructed to enable barges carrying the stone from Normandy to unload their cargo on the very site of the great Norman building.

The reason for suggesting a visit to this part of the Close is not, however, primarily to inspect the old ferry house, but to turn back and view the cathedral itself from this point. From here, seen across the Henry VI Grammar School playing field of beautifully mown grass, one obtains the most striking of all views of this great medieval pile with its fifteenth-century spire, the highest in England, save Salisbury, carried on the richly arcaded Norman tower—a masterpiece of medieval building and aesthetically a dream of delicate design.

Crome and Cotman

The next pilgrimage that the visitor should make is to the Norman castle standing on its man-made hill in the centre of the City. This building was restored in the last century, and has consequently lost much of its character. But the castle should be visited if only for the superb collection of pictures by the Norwich School of Painters, housed within its walls. The castle museum contains examples by all the members of the Norwich School, founded by John Crome, who was born in 1768. Of all the members of this school, the greatest was John Sell Cotman, and the reason for bringing painting into this article on architecture is that Cotman was the most architectural of painters, and to see his pictures of buildings is an education that no architect should miss. Recently, Mr. Russell Colman bequeathed to the City of Norwich his enormous private collection of works by Crome and Cotman and new galleries have just been completed to house these pictures, which can teach much to the architect of to-day.



Norwich City Hall.

Norwich is a city of many churches. There were once 50, and even now there are 30 within the old boundary walls. Examples of knapped or cut flint-work can be seen on the walls of many of the churches, together with decorative panels of flush stone tracery such as at St. Michael-at-Coslany, in Oak-street. There are square towers, round towers, towers built of brick as at St. Augustine's church, and towers faced with stone as in the case of the largest Norwich church, St. Peter Mancroft, which church also has a very fine hammer-beam roof.

A newcomer to Norwich will note many attractive winding streets and architecturally delightful buildings, but those who have known the City even for a short time, since the end of the war, will see there has been destruction and tragedy brought to almost as many of the old buildings as was produced by the bombing. The best preserved of old Norwich streets is a medieval one known as Elm Hill, but an example of very fine old street which has not been preserved, but which is, on the contrary, in the process of being completely ruined, is Ber-street. Here is a case of a street wide enough for four lines of traffic which could have been preserved to very great advantage; with careful restoration and modernisation flats and houses could have been provided for quite a large community or working people who have now been driven to live on the outskirts of the City in the not very attractive modern housing satellites. Presumably this particular street was considered to be too poor a district for such planning, but now that some of the better class of shop are appearing in this district and the standard of living is generally rising, there must be some regrets over this unfortunate incident.

Watchmakers' shop, St. Andrew's Hill, Norwich.

A Sad Experience

To walk down Ber-street now is a sad experience for any architect. Almost every other building, in fact, has been erected in recent years and none can be called good modern design or good copies of architecture of any known period. Nearly all are eyesores and a disgrace to the City.

It may be appropriate to ask here exactly what useful purpose the Town and Country Planning Committee in

Norwich serve if they allow architecture such as this.

Some Post-War Designs

Let us now turn our attention briefly to the architectural achievements of the present century and more especially to buildings erected since the war.

Starting with the most humble form of architecture, local Government housing, some most attractive schemes have been carried out at Loddon, 10 miles south-east of Norwich. Here the architects have departed from traditional council house building by planning groups of houses in terraces. There is nothing modern about a terrace, in fact, it is going back to the older village plans where one house joined on to another, and this has enabled the architects to produce much more interesting layouts than are possible with most council-house schemes where separate pairs of houses are insisted upon. The Loddon RDC are to be congratulated on this important step. The design of the individual houses themselves are simple and straightforward, to say nothing of the plans which are also good; in a skilful way the architects have infused a traditional Norfolk feeling into a modern and original design.

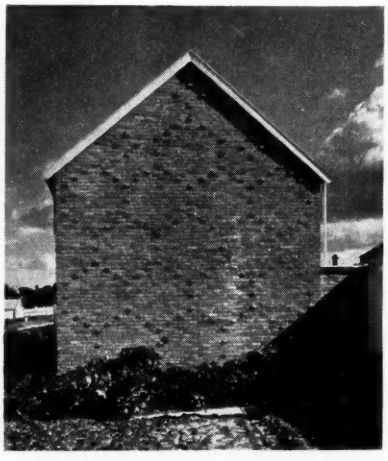
King & Sons' premises, Ber-street, Norwich.

Without referring to any particular housing scheme, one is bound to say that generally speaking these in Norfolk are quite deplorable whether they are carried out by local RDC's or by the City Council. They are usually recognised from a long way off by the complete lack of landscape gardening and the repetition of design for which there is no real excuse, and this grave fault can only be called mean and unimaginative. Particularly outside the City of Norwich are these great red rashes of uninspired and soul-destroying houses most noticeable. They are erected obviously on the dictates of the Sanitary Engineer and the small voice of the imaginative designer is never heard.

A House with Quality

In private house architecture there is a distinctly higher quality of design, and a satisfying example of a small white house is one built on one of the Broads. The simplicity of this design is the key to its success together with the careful selection of materials and colour. Here is a house which will improve with age and weathering. How many of our modern buildings to-day will do this ? It is time that architects gave more thought to the materials used for the exterior of their buildings.

In Norwich itself, the outstanding new building is the City Hall, opened in 1938. Although much criticism has been levelled at this building, there is a lot to be said in its favour. To start with it has an extremely clever plan, and this is reflected in the simple good proportion of the elevations. The style might be termed Neo-Georgian-Swedish and that is its biggest fault. It is too much a reflection of the Stockholm Town Hall. The positioning of the tall tower on the north side is extremely clever and not only does it look right with the Market-place but it forms the centre of a vista along various roads leading into Norwich. The bad part about the tower is the copper lantern on the top.



Rural housing, for Loddon RDC.

The new Trinity Presbyterian Church in Unthank-road, completed last month, shows promise of being an extremely interesting modern building. It is of reinforced concrete frame construction with load-bearing walls for the upper floors, and the clever part of the design is the steel space frame roof which spans a clear 50 ft.

A delightful example of small modern shop front, designed in a traditional manner, is to be found in St. Andrew's Hill, the narrow street leading off London-street. A watch and clock repair shop does not need large plate glass windows, and the architect has so rightly introduced glazing bars of characteristic Georgian proportion. This is a building that will improve with age, and should be easy to recognise in the future as a product of this century.

Shops and Offices

Many other shops, both small and large, have now been completed since the war, and whilst some of the designs can be classed as nearly successful, none of them can be termed a brilliant architectural design. An architect is, of course, faced with considerable difficulties with a large shop or office building to be erected in the heart of an old city like Norwich. So often the site is surrounded by buildings of varying periods, ranging from Elizabethan or Georgian to romantic Victorian Gothic. The principle in such cases should obviously be to carry out an honest, straightforward design of the twentieth century, using carefully picked materials externally, and not trying too desperately to "keep in keeping" with the surroundings.

Another class of town building which has been skilfully handled is the show-rooms of Burgess Tractors in King-street. To start with, the building has been set back far enough to give a broad expanse of pavement. Next, the all-important point of weathering is taken care of, and the brick and stone which have been used will not depreciate with the years. The architect has not been frightened to introduce a slightly traditional note into his design and the front edge of the stone architrave encasing the large show window has been grooved or fluted in the Georgian manner, but nobody could say that the treatment is not original.

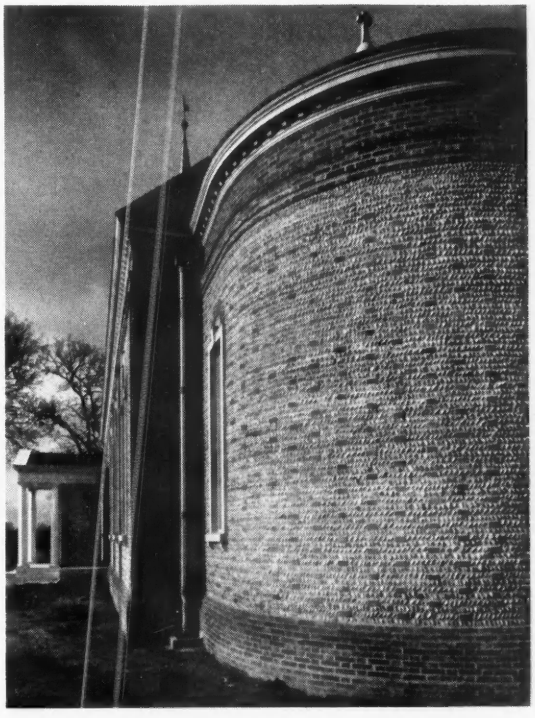
The offices in Ber-street of a Norwich scrap merchant, A. King and Sons, have been designed in what can only be called a self-consciously modern style. There is much about this design which is good but to start with it is not suited to its site. There is good proportion about it, and the first-floor flower-box is an attractive and perfectly practical feature, but it is not a building which is in the faintest degree suitable to Ber-street.

Factories and Schools

Many factories have been built in and around Norwich since the war, and some of these are harmless and even attractive in parts, but always there is this lack of inspiration. A factory has to serve its purpose, but there should be room for good elevational design as well as skilful planning: the two things go hand in hand.

A large number of new schools have also been built in Norfolk in recent years, and

here again there is too much timidity and copying and lack of originality on the part of the architects. Why must a new school in Norfolk be almost exactly the same as a new school in Hertfordshire or in Northumberland? Where is that sense of local material and local tradition? The thread is not preserved, but has been completely cut, and heaven help the children who are taught in these schools! They are presumably brought up to think that a good building is a building of blank walls and large sheets of glass. There is no sculpture, no form, no dignity and certainly no landscape planning to these modern schools in Norfolk. The latest example of what appears to be sheer exhibitionism on the part of architects is the new school at Hunstanton. A closer parallel to a modern edition of the Crystal Palace could hardly be imagined. There is probably more glass than solid wall about this school. The only word that can be said in favour of this building is that had it not been designed as a school, but for some other purpose, where excessive daylight was required, then one might easily take a completely different view of the building, and go as far as to say that it was a brilliant design. One of the better features in some of these schools is the question of decoration internally. Some very pleasant effects have been produced in some of the schools built near Norwich. Rooms vary in colour and floors are of different materials and in attractive patterns and shades.



Bawdeswell Church, Norfolk.

Faults of the Age

This criticism is not levelled at any particular individuals. It is common fault of the age partly owing to pressure of work and the speed with which buildings have to be erected. Architects, both official and private, are not given the time to think out original and delightful designs, but almost by force of circumstances they fall back on the mass-produced building materials so ready to hand. There is no quarrel here with a building because it has a flat roof or necessarily because it has a very large window, and constructive criticism can only be given by actual illustration and not by the written word. It only remains to say, therefore, that it is an unhappy fact that Norfolk possesses hardly any really good modern buildings which will stand the test of time. It is all the more tragic when one realises what a magnificent heritage of architecture this county possesses, and the inspiration that buildings, from the smallest to the largest, can and do give to those who are prepared to open their eyes wide enough and to look long enough.

BRITISH ARCHITECTS' CONFERENCE

Programme and Arrangements

THE British Architects' Conference is to be held this year at Norwich from May 30 to June 2. Following is an account of the arrangements for the conference: —

Headquarters: The headquarters of the conference will be at the Assembly House, Theatre-street, Norwich (telephone Norwich 28495). Members should call at the Conference Office there as soon as possible on arrival to obtain badges, information, etc., and to give their addresses in Norwich, if not previously notified. The Conference Office will remain open until 8 p.m. on May 30.

Until May 28 all correspondence on the subject of the conference should be addressed to the Secretary, RIBA, 66, Portland-place, London, W1, and thereafter to the Assembly House, Norwich.

Exhibition: During the period of the conference the Summer Exhibition at the Castle Museum will be devoted to East Anglian Architecture through the Ages.

Programme

Wednesday, May 30.—An informal reception will be held at the Assembly House, Theatre-street, Norwich, at which members will be the guests of the Norfolk and Norwich Association of Architects. Light refreshments, music, informal dress. 9 p.m. to 11 p.m.

Thursday, May 31.—The inaugural meeting will be held at the Stuart Hall, St. Andrew-street. Reception and address of welcome to members by the Lord Mayor of Norwich. Address by Mr. C. H. Aslin, CBE, president, RIBA, followed by papers on "Architectural Economics" by Dr. J. Leslie Martin, MA, FRIBA, Mr. E. D. Jefferiss Mathews, OBE, FRIBA, ARICS, and Dr. J. C. Weston, of the Buildings Operations Research Unit of the Department of Scientific and Industrial Research. 9.45 a.m. to 12.30 p.m. Members and guests will make their own arrangements for lunch.

A garden party will be held in the Bishop's Palace Garden by permission of the Bishop of Norwich. 3 p.m. to 5 p.m.

A service will be held in Norwich Cathedral, following the garden party, at the invitation of the Dean and Chapter of Norwich. 5 p.m.

Civic reception and dance at the Castle by kind invitation of the Lord Mayor and Corporation of Norwich. Evening dress, decorations, presidential badges. 8.30 p.m. to 11.30 p.m.

Friday, June 1.—Papers continued at the Stuart Hall on "Architectural Economics," by Dr. J. Leslie Martin, Mr. E. D. Jefferiss Mathews and Dr. J. C. Weston. 10 a.m. to 1 p.m. Members and guests will make their own arrangements for lunch.

ALTERNATIVE HALF-DAY TOURS

Tour No. 1 (2.15 *p.m.*).—Norwich—Aylsham—Blickling Hall—"Buckinghamshire Arms" (tea)—Norwich at 5.30 p.m.

Tour No. 2 (2.15 *p.m.*).—Norwich—Cawston Church—Salle Park—Salle Church (tea at Memorial Hall)—Reepham—Norwich at 5.30 p.m.

Tour No. 3 (2 *p.m.*).—Norwich—coach to Ludham Bridge—by launch to Ranworth Broad—Horning Ferry—Salhouse Broad—Wroxham Broad (tea)—Wroxham Bridge—coach to Norwich at 5.30 p.m.

ALTERNATIVE WHOLE-DAY TOURS

Tour No. 4 (9.30 *a.m.*).—Norwich—coach to Wayford Bridge—by launch to Barton Broad—Ludham Bridge—Ranworth Broad—Ranworth Church (picnic lunch aboard launch). St. Benet's Abbey—South Walsham Broad—Horning Ferry—Salhouse Broad—Wroxham Broad (tea)—Wroxham Bridge—coach to Norwich at 5.30 p.m.

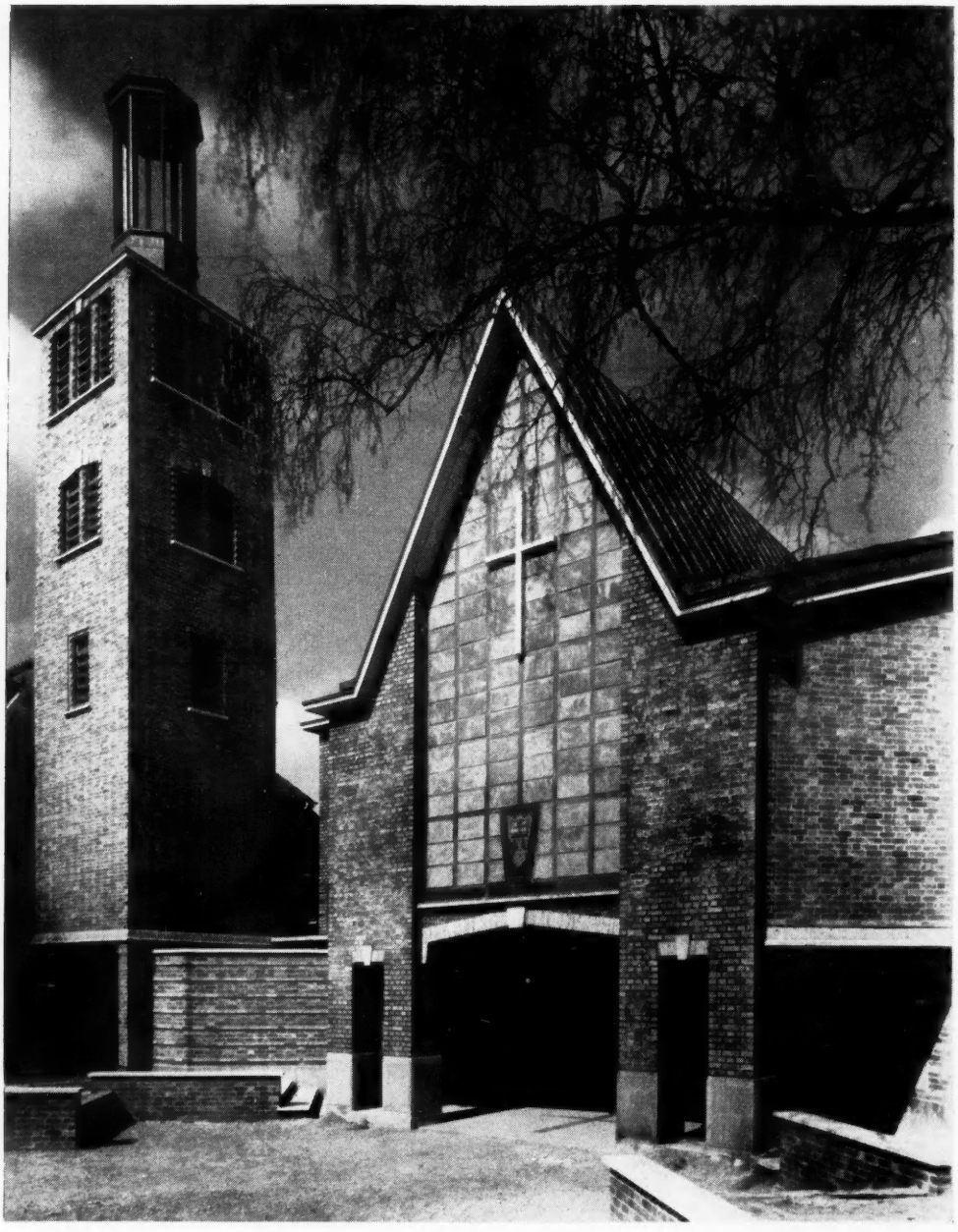
Tour No. 5 (9.30 *a.m.*).—Norwich—Bawdeswell—Guist—Fakenham—East Barsham—Walsingham—Holkham Hall (picnic lunch in Park)—Blakeney Church—Blakeney Quay (tea)—Cley—Holt—Norwich at 5.30 p.m.

Tour No. 6 (9.30 *a.m.*).—Norwich—East Dereham—Great Dunham Church—Castle Acre Priory—Swaffham (lunch)—Watton—Hingham—Wymondham Abbey (tea)—Norwich at 5.30 p.m.

Members of the conference are cordially invited by Mrs. F. E. Boardman to visit the Azalea and Rhododendron Gardens at How Hill, Ludham, at any time during their stay in Norfolk.

Conference Dinner: Conference dinner at the Samson and Hercules House, Tombland. The guests will be received by the president, RIBA, and the president, Norfolk and Norwich Association of Architects. Evening dress, decorations, presidential badges. 7.15 p.m. for 7.45 p.m.

Saturday, June 2.—Informal visits to places of interest. Some information will be found in the Conference Handbook and inquiries may be made at the Conference Office. In the morning a visit to the City Hall for a very limited number of members is being arranged, when the Council Chamber, Committee rooms and very fine regalia may be seen.



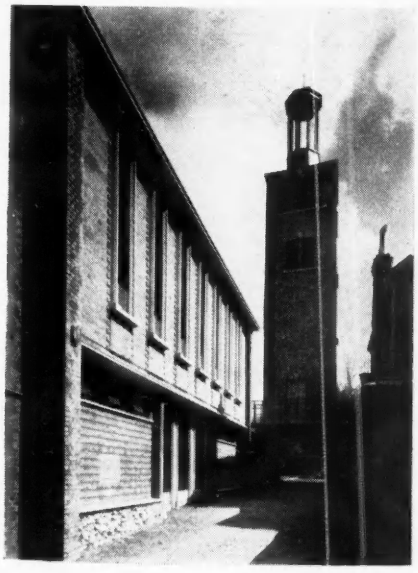
View from east.

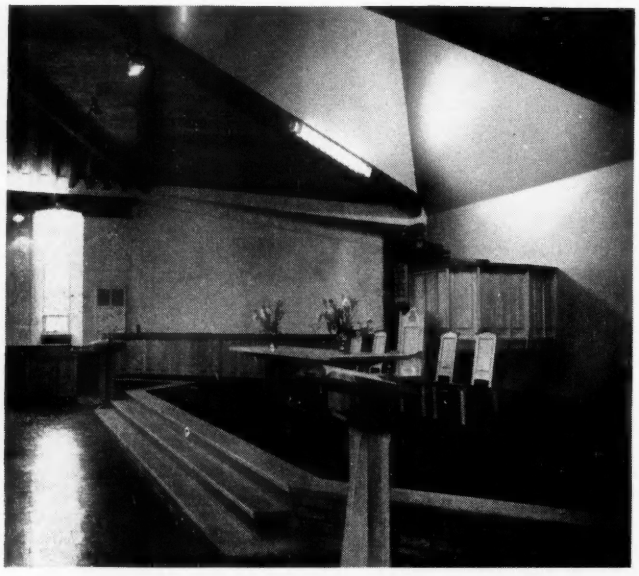
Trinity Presbyterian Church, Norwich

EDWARD BOARDMAN & SON, FF.RIBA, Architects
Assisted by BERNARD M. FEILDEN, ARIBA

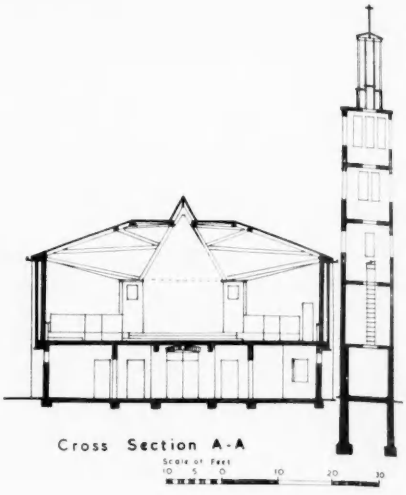
A. CLARK, ARICS (Philip Pank & Partners), Quantity Surveyor
THOMAS GILL & SON (NORWICH), LTD., Builders

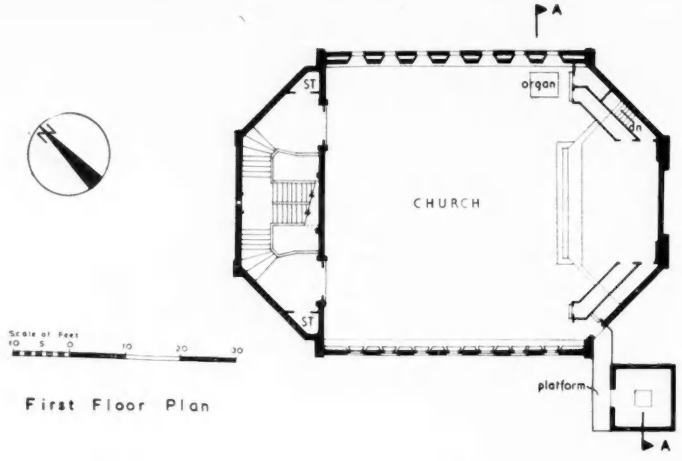
Seen above is the meeting room. Here the aim is to attract towards the light up the stairs which leads to the church. This space is very generous as providing a meeting area for the congregation who come from many miles around. To the right is the staircase and below a view of the church from north-west.





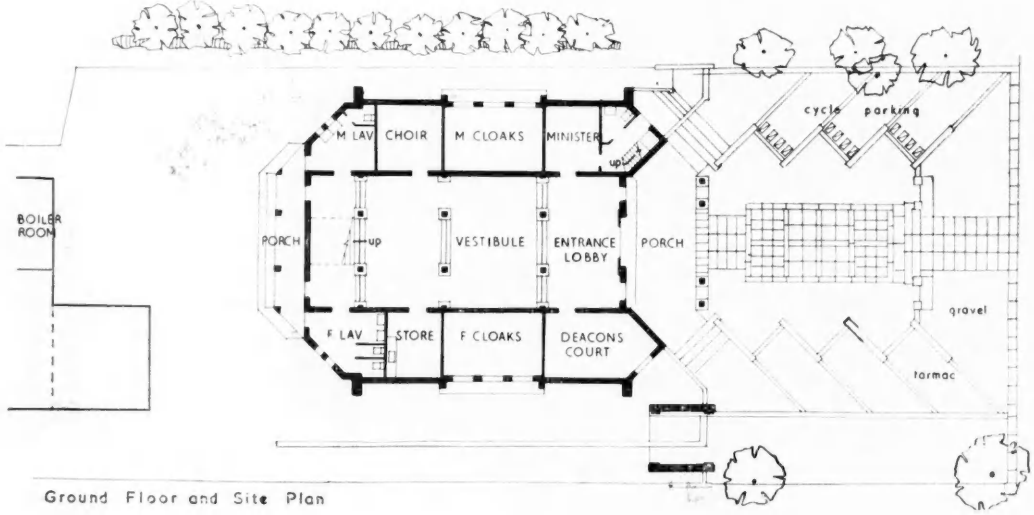
View towards communion table.





First Floor Plan

The cross-section shows the form of the steel space frame, designed by Messrs. Leonard & Grant. The roof is African mahogany fitted over and around the frame. The communion table and furniture were designed by the architects.



Ground Floor and Site Plan

NORFOLK has a large Presbyterian population which has come through many vicissitudes. Only the Norwich community has survived into the twentieth century, and the church now shown is the successor of a building erected in Theatre-street in 1867, but destroyed in the raids of 1942. The new building is erected on the foundations of the old Baptist chapel in Unthank-road. In length it is 78 ft., in breadth, 56 ft., in height, 39 ft., and the freestanding tower 77 ft. 6 ins. overall. The cubic content is 131,000 cu. ft.

The church is not only a place of worship but a meeting place for the congregation who come from many miles around, and the unusual plan of placing the church at first floor and retaining the ground floor for hall, vestries, etc., has been adopted. The design reflects the character of Presbyterian worship, and the triangular *motif* of the Trinity has been used throughout. The Presbyterian symbols—depicting the trials through which the Church endures—are incorporated in the low relief carving on the East front by Mr. Rowbottom.

Construction : This is carried on a reinforced concrete frame, clad with Stamford brickwork in various bonds with black pointing on piers. Stone dressings are Portland. The roof is 23-gauge copper on timber infill resting on a steel space frame. The East gable is clad with riven Green Westmorland slate with a white Cross of Portland stone inset.

Finishes : The vestibule is floored with quarries, the walls being sand-coloured brick, the columns reinforced concrete and the plastered ceiling painted pale blue. The church roof is of African mahogany fitted over and around the steel space frame. Walls are in natural lime plaster, and joinery of Yugoslavian oak with Australian black bean for skirtings and cappings. Floors of cork tile.

Lighting : Natural light is given by seven tall windows set in deep reveals on either side, and three gable clerestory windows, all glazed in pink clouded glass. Artificial light is provided by a Duodecagon ring with a cluster of lights. Spot lights illuminate important features such as Communion Table, readers' desk, etc.

Services : Heating is central from remote boiler house, using heater batteries with fans. The organ is of the electronic type with remote console.

Cost : The total cost was about £33,000.

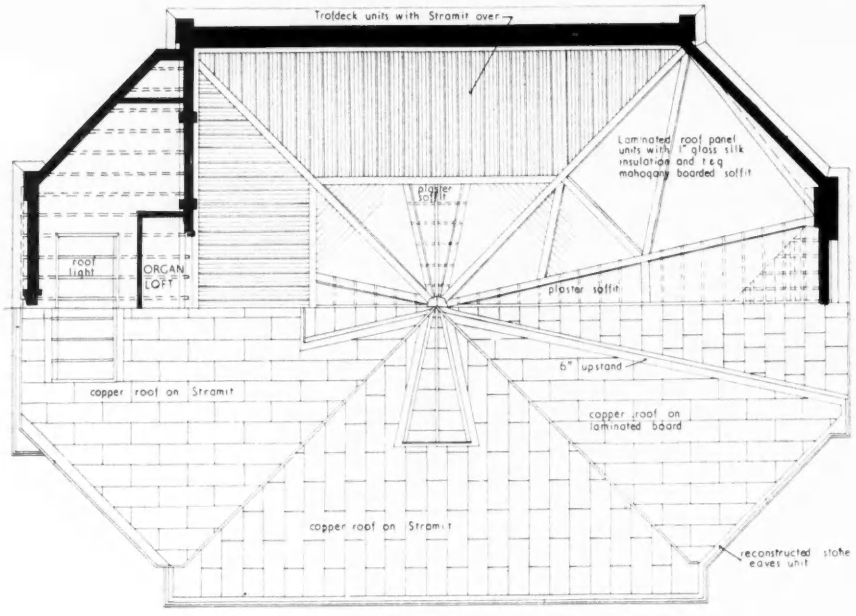
Sub-contractors and suppliers :

Steelwork, Humphries, Hollom, Ltd.; mason, Saunders (Ipswich), Ltd.; electrical, Johnson, Pearce and Co., Ltd.; heating, G. N. Haden and Sons, Ltd.; plumbing, W. J. and F. Taylor, Ltd.; copper roof, Fredk. Braby and Co., Ltd.; cork tiles, Cork Insulation and Asbestos Co., Ltd.; wood block flooring, Bennett's Wood Flooring (Tungit) Co., Ltd.; iron railings, C. A. and A. W. Haward, Ltd.; glazing, Wilsons (Glaziers), Ltd.; G. King and Son, Ltd.; joinery, H. E. Taylor and Co., Ltd.; organ, Miller Organ Co., Ltd.; reinforcing steel, British Reinforced Concrete Engineering Co., Ltd.; Trofdek roofing units, H. Newsum Sons, and Co., Ltd.; windows, Williams and Williams, Ltd.; remote control gear; Arens Controls, Ltd.; lavatory cubicles, Crittall Manufacturing Co., Ltd.; sanitary fittings, Ruymps (Ironmongers), Ltd.; ironmongery, Dryad Metal Works, Ltd.; carpet, Wallace King, Ltd.; and clock, S. Parton.

Painting in the school hall by F. C. Turner, and preparation of the floor by Holmes (Norwich), Ltd.

View up centre aisle.

Below: From south aisle.


Troldeck units with Stramit over
Laminated roof panel units with 1" glass silk insulation and t & g mahogany boarded soffit
plaster soffit
roof light
ORGAN LOFT
plaster soffit
6" upstand
copper roof on Stramit
copper roof on laminated board
copper roof on Stramit
reconstructed stone eaves unit

Plan showing Roof Coverings

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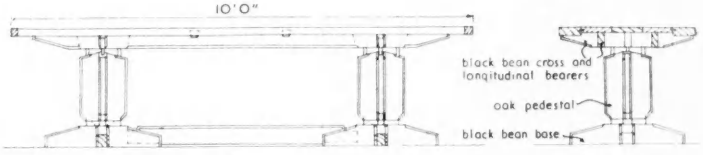
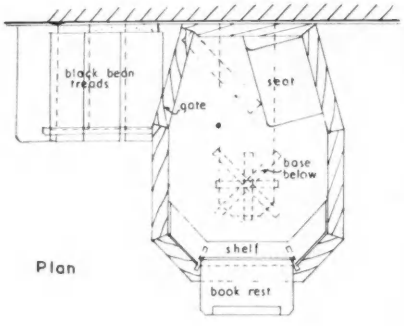
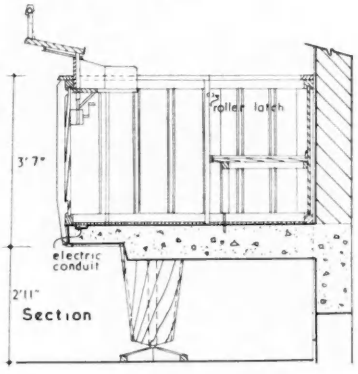


Side Elevation Section



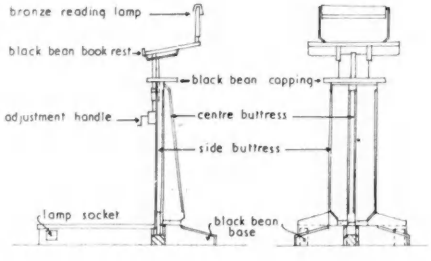
Plan



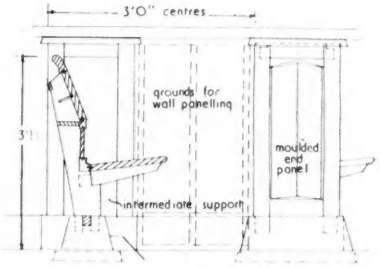
Section

Details of the Communion Table, roof, reader's desk and pews.

TRINITY PRESBYTERIAN CHURCH, NORWICH



Side Elevation Front Elevation



Section End Elevation

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CORTON HOUSE
Homes for Elderly People
NORWICH

View from lawn, with dining-room on right.

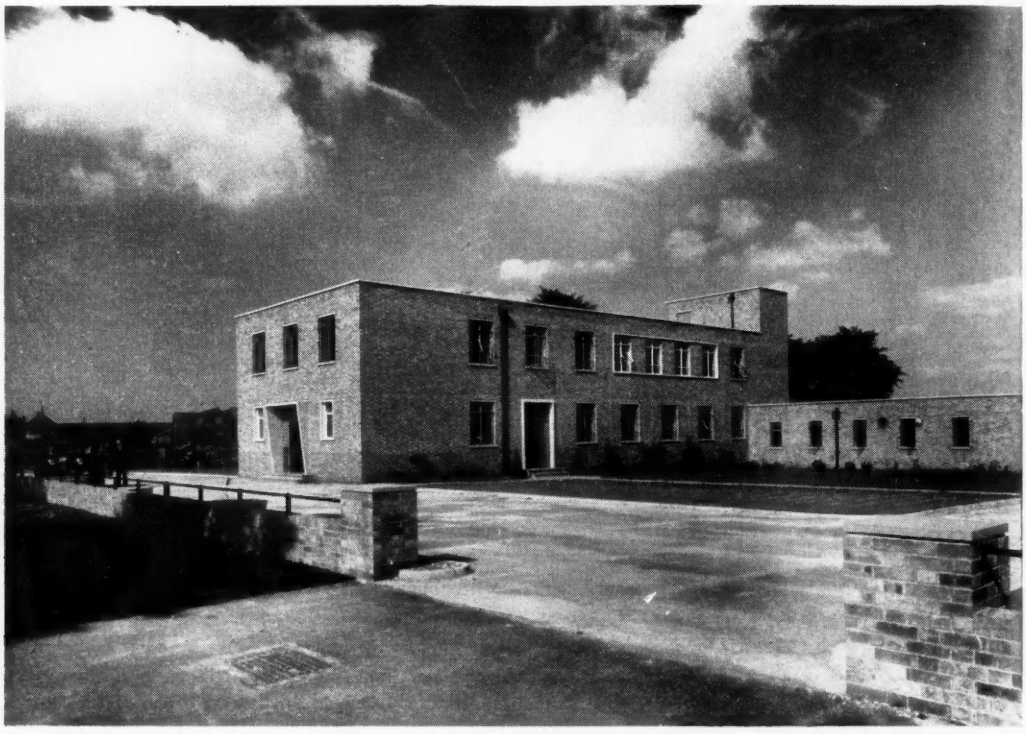
FRANK M. DEWING, AA.RIBA
Architects
J. YOUNGS & SON, LTD.
Builders

The entrance courtyard.

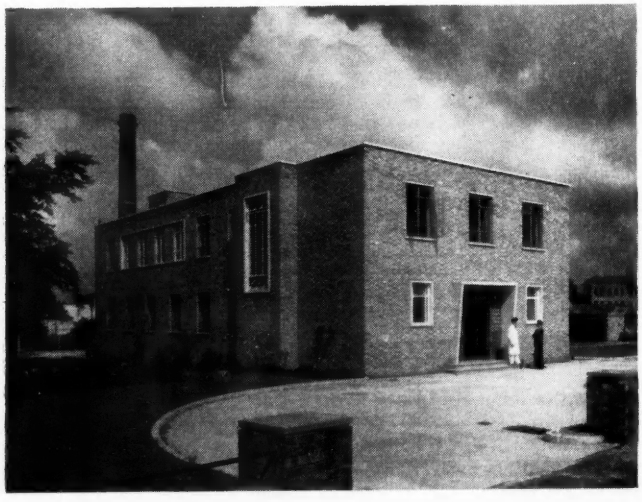
CORTON HOUSE, a home for elderly people who in happier times would have been able to provide their own homes, has been built by the Committee of Corton House, Ltd., acting on behalf of the Norwich Free Church Federal Council. The project had in mind certain things which are believed to be essential to happiness and peace of mind: congenial company, privacy, independence, security and the continuation of old friendships. Each resident has a bed-sitting-room but shares in the communal life of the lounges and dining-room. All rooms are centrally heated, and the bed-sitting-rooms have hot and cold water laid on and a built-in wardrobe. A nurse is in attendance. There is accommodation for 31 residents and four resident staff.

Construction is 11-in. cavity brick with concrete floors. Cork floors in corridors and small reception rooms, and hard wood block in larger rooms; elsewhere lino. Wide spans are carried on steel joists.

Sub-contractors and suppliers were: Central heating, h. & c. water, and plumbing, W. J. Taylor; plastering, Crotch and Son (Norwich); lino floors, Wallace King, Ltd.; cork floors, H. E. Richards Flooring, Ltd.; steel work, Barnes and Pye, Ltd.; metal windows, Crittall Mnfg. Co., Ltd.; roads, Harry Pointer (Norwich), Ltd.; furnishings, Heals and Robertson and Colman, Ltd.; and fabrics, Garland and Sons, Ltd.



Public Health Laboratory, Norwich, for Medical Research Council



Architects

EDWARD BOARDMAN & SON, FF.RIBA

Architect-in-Charge

LIONEL SMITH, ARIBA

Quantity Surveyors

DAVIS, BELFIELD & EVEREST

Builders

THOMAS GILL & SON (NORWICH), LTD.

THIS laboratory is at the SW corner of the grounds of the West Norwich Hospital, on a site sloping about 2 ft. from south to north. Clients' requirements were that (*a*) all laboratories should face either east or west; (*b*) the animal house was to be as far from the road as possible; (*c*) there should be provision for extension.

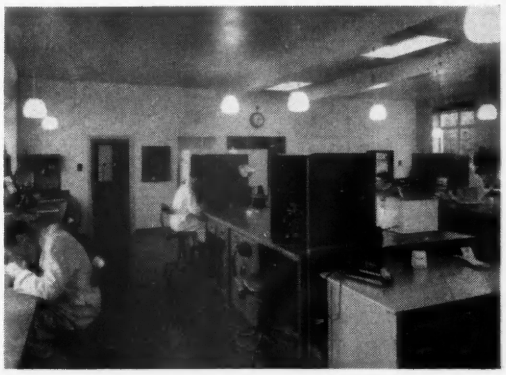
Construction: Steel shortage dictated a solid brick structure, with main entrance surround and dressings of reconstructed Hopton Wood stone. Windows were purpose-made. Brickwork is 13½ in. to the two-storey portion to allow recesses under windows for radiators (a clients' requirement) and chases for vertical service runs. The single-storey portions are 11 in. cavity. Precast prestressed concrete beams are used to first floor and the roof, with suspended ceilings of "Colterro" lathing. Roofs are covered with 3-ply bitumen felt and granite chippings.

Finishes: Walls and ceilings generally are gypsum plaster. Walls are glazed tiled, and ceilings to sterilising room and wash-up are vermiculite plastered. Floors generally are "Granwood," with hardened asphalt to animal house and terrazzo to entrances and stairs. Doors are flush veneered African mahogany with painted softwood frames. Bench fittings and joinery generally are African mahogany polished.

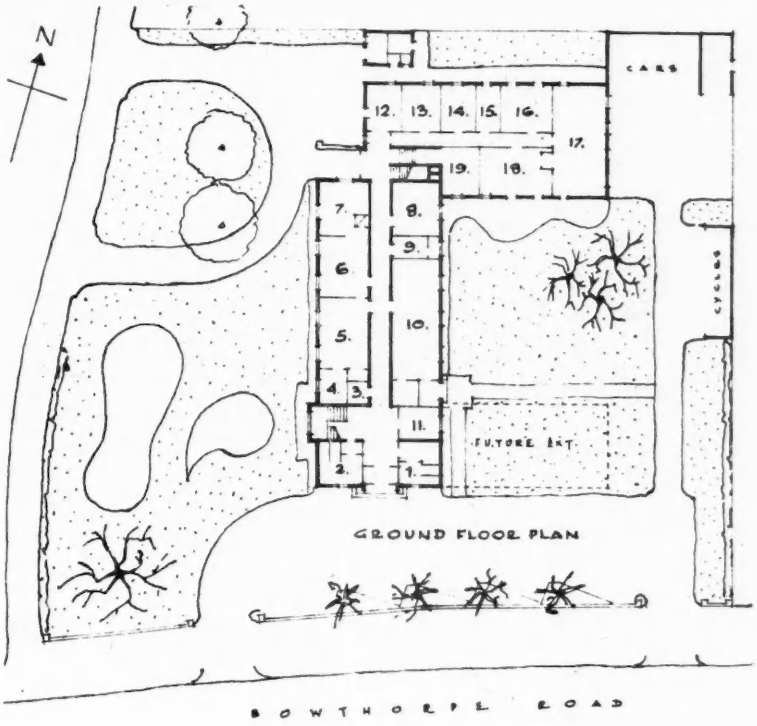
Services: Heating is by low-pressure hot water and radiators using two gas-fired boilers each of 288,000 BTU, thermostatically controlled. Hot water is provided indirectly by a calorifier. Lighting is on the 13-amp. ring main system.

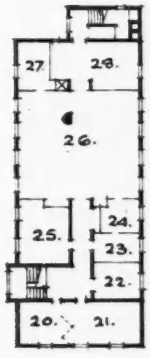
Cost: The final cost, including garden layout, but exclusive of furniture and laboratory fittings, was £38,000, or 6s. per foot cube. Associated firms:

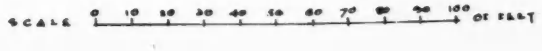
Bicycle racks, Stelcon (Industrial Floors) Ltd.; bitumen felt roofing and tanking, William Briggs and Sons, Ltd.; boilers (gas fired Potterton), Thomas De La Rue and Co., Ltd.; bricks—(*a*) facings (Blaby Matlock grey rustics), W. T. Lamb and Sons, Ltd., and (*b*) foundations and manholes, Fisons, Ltd.; cage racks, food bins, etc., C. Hall (Metalworks) Ltd.; cage steriliser (gas fired), Perkins Clean Milk Equipment, Ltd.; clothes lockers, Sankey-Sheldon, Ltd.; cold water and gas installations, William Freer, Ltd.; door furniture and bronze grilles, etc., Comyn Ching and Co. (London), Ltd.; door mats ("Nuway"), Roworth Bros., Ltd.; duct covers, Broads Manufacturing Co., Ltd.; electrical installation and refrigerator, Mann Egerton and Co., Ltd.; electric clocks, Gent and Co., Ltd.; electric switchgear, GEC; extract fans, Vent-Axia, Ltd.; flooring—(*a*) asphalt, Cambridge Asphalte Co., Ltd., (*b*) "Granwood," Granwood Flooring Co., Ltd., (*c*) terrazzo, Diespeker and Co., Ltd.; (*d*) tile, Carter and Co. (London), Ltd.; flush doors and hardwoods, William Mallinson and Sons, Ltd.; gardening and planting, Daniels Bros., Ltd.; glazed wall tiling, Carter and Co. (London), Ltd.; glazing, G. Wilson (Glaziers), Ltd.; heating and hot water, G. N. Haden and Sons, Ltd.; incinerator (gas fired), The Incinerator Co., Ltd.; lightning conductor, W. J. Furse and Co. Ltd.; light fittings, Merchant Adventurers, Ltd., Hailwood and Ackroyd, Ltd., and H. Terry and Sons, Ltd.; metal windows, Henry Hope and Sons, Ltd.; paint, Imperial Chemical Industries, Ltd.; pavement roof lights, J. A. King and Co., Ltd.; plaster, Cafferata and Co., Ltd.; plastering, Marshall and Mann; plumbing, W. J. and F. Taylor, Ltd.; precast concrete—(*a*) curbs, E. Bush, (*b*) floor and roof beams, Milbank Floors, Ltd., and (*c*) flower boxes, Precasters, Ltd.; railings, R. Crosskill, Ltd.; reconstructed stone, Empire Stone Co., Ltd.; sanitary fittings (Doultons), Ruymp (Ironmongers), Ltd.; "Sar-Rez" polish for woodwork, Saro Laminated Wood Products, Ltd.; service lift, Bennie Lifts, Ltd.; sliding folding partition, Esavian, Ltd.; stair balustrade, S. T. Cowell and Sons, Ltd.; and steelwork, Dawnays, Ltd.



Below: Library. Right: Main laboratory.







Layout of West Earlham estate.

POST-WAR HOUSING, FOR THE CITY OF NORWICH

Designed under the direction of the late City Architect L. G. HANNAFORD, FRIBA

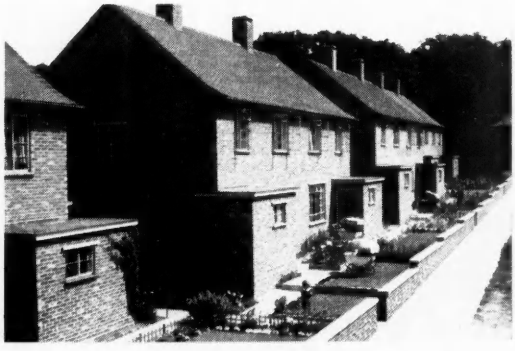
C. J. TOMKINS, Deputy City Architect

NORWICH post-war housing has been developed on six main estates of which five are completed and one is now taking shape. These sites are situated around the perimeter of the city. Smaller sites in various localities have also been developed. One large area of redevelopment near the centre is now in hand and some other smaller areas have reached the limit of redevelopment possible at present. Altogether some 5,800 dwellings have been provided, of which 50 per cent. are 3-bedroom houses, 8 per cent. 2-bedroom houses, 34 per cent. 2-bedroom flats in blocks of four and 8 per cent. 2- and 1-bedroom flats in 3-storey blocks.

Houses and flats generally have been designed with through living-rooms and are suitable for any aspect, floor areas varying from 888 sq. ft. for 3-bedroom houses (which include an internal store) to 600 sq. ft. for 2-bedroom flats built in blocks of four, these latter being designed as suitable for all aspects except north.

A number of composite blocks of flats and maisonettes are now in course of erection, and two will shortly be completed. One block of 10 consists of six 2-bed flats, 670 ft.

Scheme of 23 shops and 16 flats on the West Earlham estate. John Cochrane & Sons, Ltd., builders.



Whole house heating dwellings, built in collaboration with the Ministry of Fuel and Power.

sup. floor area, two bed-sitting-room flats, 413 ft. sup. and two 3-bedroom maisonettes of 852 ft. sup.

The largest estate completed contains 1,266 dwellings and is at West Earlham, of which a layout is given. In addition to dwellings, provision is made for schools, churches, shops with flats over, and a public house. A few houses for police personnel are dispersed throughout the estate, this being the general policy as affording closer contact with the residents generally. A number of houses for Earl Haig Fund Pensioners are grouped around an attractive green. These did not form part of the Local Authority's Housing Programme.

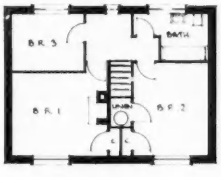
The contractors mainly concerned with post-war development on the various sites throughout the city were: The City Engineer's Direct Labour Department; R. G. Carter, Ltd.; W. F. Pointer and Sons, Ltd.; John Cochrane and Sons, Ltd.; T. Gill and Son (Norwich), Ltd.; J. Youngs and Son, Ltd.; H. C. Greengrass and Sons, Ltd.; Burrell Bros.; Ford and Carter, Ltd.; H. G. Lomax and Son, Ltd.; Castons (Builders), Ltd.; and W. Llewellyn and Sons, Ltd.

New type plans are in course of preparation for the 1957 programme and future policy is to include a larger number of maisonettes, particularly in redevelopment areas.

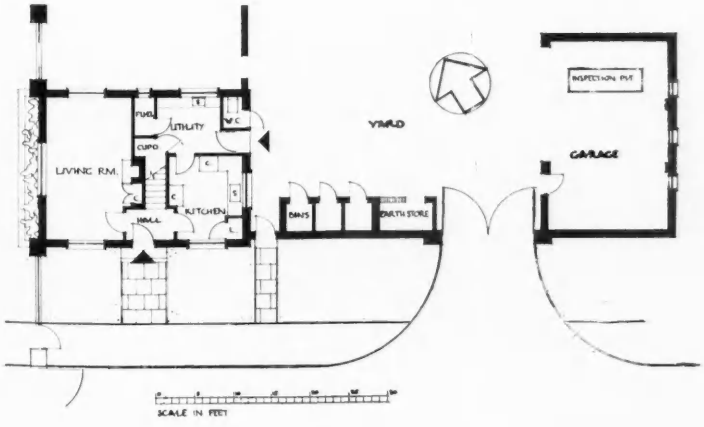
The present City Architect is Mr. D. E. Percival, BA, ARIBA, MTPI, but the housing work illustrated was designed under the direction of his predecessor, the late Mr. L. G. Hannaford, FRIBA.

Aged persons' dwellings, Union-street.

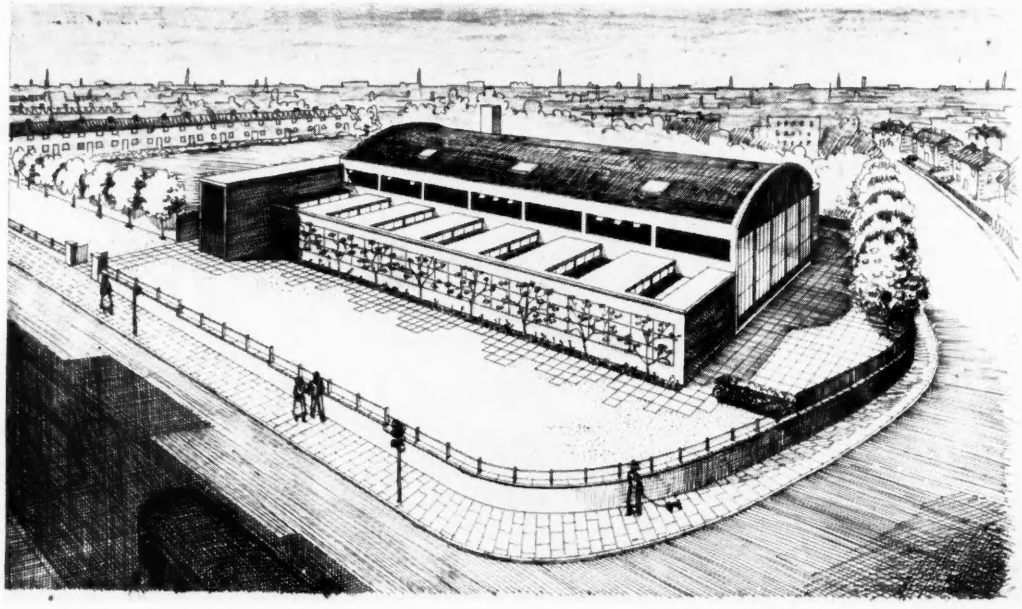
Groundman's house, Lakenham Playing Fields. Below: Plans.



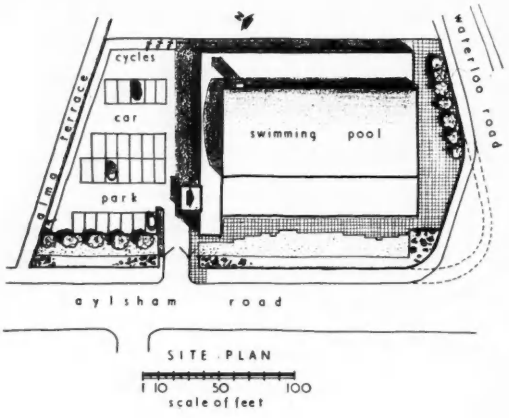
FIRST FLOOR



POST-WAR HOUSING, FOR THE CITY OF NORWICH



View from south.



Covered Swimming Pool St. Augustine's, Norwich

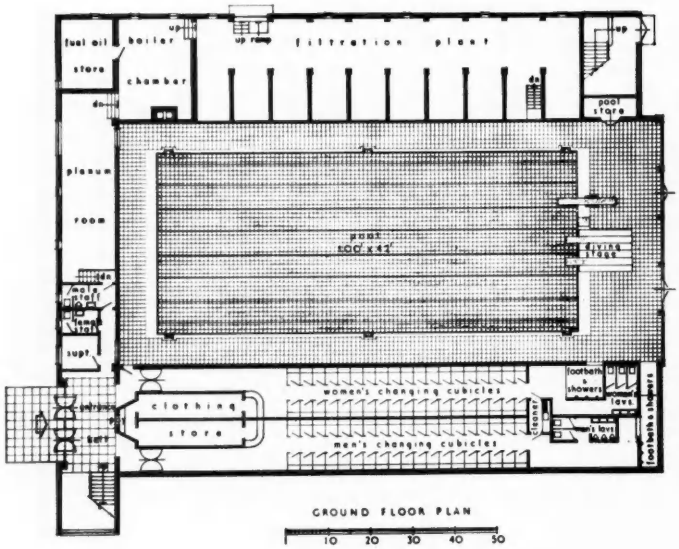
City Architect
DAVID E. PERCIVAL, BA, ARIBA

Deputy City Architect
C. J. TOMKINS, FRIBA

Chief Assistant Architect
C. HEATHCOTE, ARIBA

Assistant Architects
J. R. LEEKS & J. B. BUNDEY

City Engineer (responsible for heating, ventilation and RC Foundations)
H. C. ROWLEY, MICE, MIMunE



A SCHEME for a covered swimming bath in Norwich, has been under consideration for 25 years, and a design for a bath without spectators' accommodation, prepared by the late City Architect, Mr. L. G. Hannaford, has now been expanded under the direction of his successor, Mr. D. E. Percival. The bath—whose building is held up by the credit squeeze—will be 100 ft. by 42 ft., and will accommodate 210 bathers at any one time. It is housed in a hall 128 ft. by 56 ft., roofed with a single r.c. barrel vault supported at the four corners only by r.c. columns. 38 dressing cubicles for each sex are included, and the spectators' gallery holds 384. A tea balcony overlooking the pool from one end can seat an additional 100. The prestressed engineering work has been designed by Chisarc and Shell "D." The cost is put at £93,000.

Factory at Oulton Broad, Norfolk

Architects

A. F. SCOTT AND SONS

Consulting Engineer

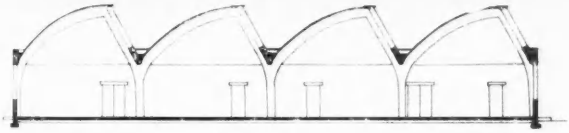
JAMES E. WARDROPPER, MSc, AMICE

Builders

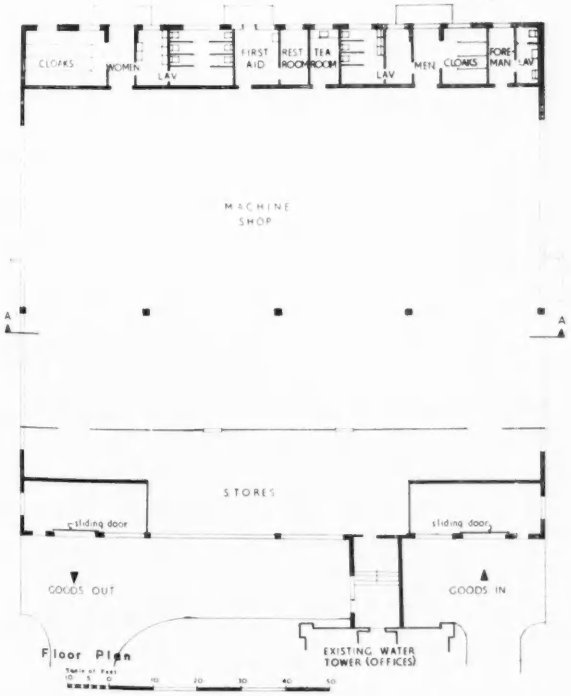
R. G. CARTER, LTD.

THE factory shown on this page is for Pye Marine, Ltd., a branch of the Pye Group which specialises in electronic equipment. The north-light shell building has a production area of 120 ft. by 100 ft., and was completed inside nine months. Firms associated were:

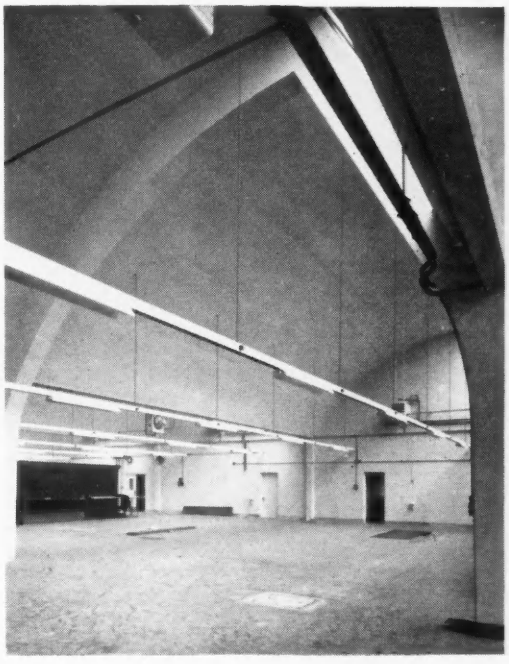
Electricity and heating, A. Pank and Son, Ltd.; roof glazing and lavatory cubicles, Henry Hope and Sons, Ltd.; cork roof insulation and built-up roof covering, Wm. Briggs and Sons, Ltd.; collapsible gates, Haywards, Ltd.; plumbing, W. J. Taylor; and accotile floors, Holmes (Norwich), Ltd.



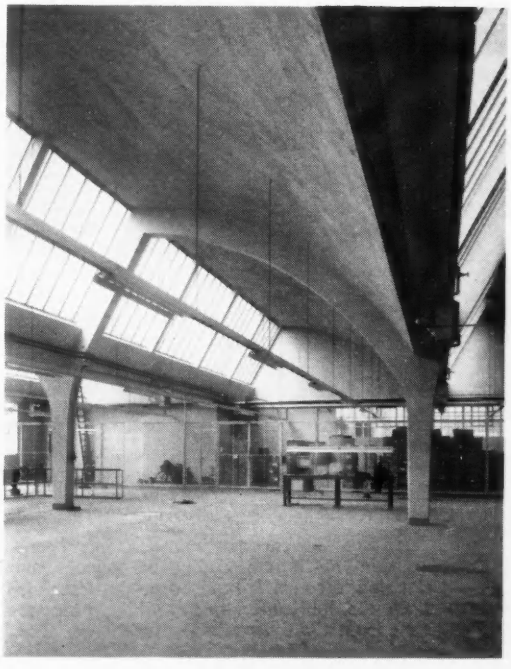
Section A-A



Floor Plan



Two views in production bays.



Car Depot and Filling Station, Surrey Street, Norwich

for Mann Egerton & Company, Ltd.

Architects
J. OWEN BOND & SON

Quantity Surveyors
PHILIP PANK & PARTNERS

Builders
R. G. CARTER, LTD.

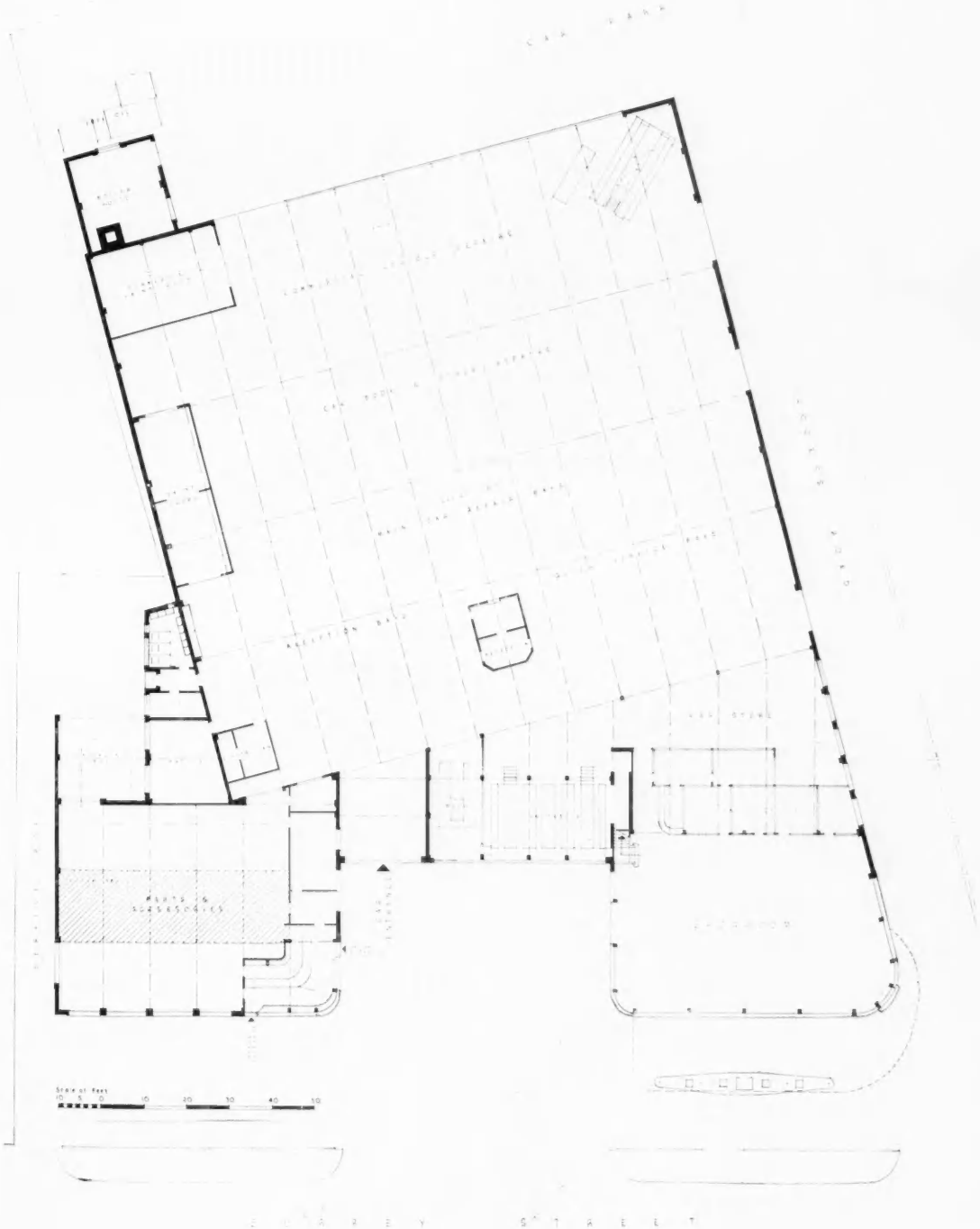
CONSTITUTING the Ford depot of one of the largest motor dealers in the City, this building has an uninterrupted span of 140 ft. by 130 ft. which enables all types of repairs and replacements to be dealt with. The roof at the rear of the garages is raised to a height of 16 ft. to enable repairs to the largest commercial vehicles.

The two-storeyed portion is steel framed, brick filled. Heating is effected by oil-burning furnaces which consume waste oil produced by the firm.

A separate car washing bay has been installed utilising up-to-date equipment which enables the cleaning to be carried out in the shortest possible time. Both the lubrication and washing processes can be seen from the forecourt through large, glazed sliding

doors at the front. The large showroom, measuring 42 ft. by 64 ft. has inclined glazing to the display windows so as to obviate distracting reflection. The second floor of the two-storey block over the centre part of the front contains the board room and offices, all of which are readily accessible from the main showroom. Sub-contractors and suppliers :

Steelwork, Boulton and Paul, Ltd.; heating, Wm. Freer, Ltd.; sanitary fittings, R. J. Pryce and Co.; windows, The Crittall Manufacturing Co., Ltd.; sliding door gear, E. Hill Aldam and Co., Ltd.; roller shutters, G. Brady and Co., Ltd.; display windows, Holmes Nch., Ltd.; garage equipment, Weaver Manufacturing and Engineering Co., Ltd.; reinforcement, Twisteel Reinforcement, Ltd.; and red sand-faced wire cut facings, National Brick Co.



CAR DEPOT AND FILLING STATION, SURREY STREET, NORWICH

CORRESPONDENCE

A Demolition Accident

To the Editor of *The Builder*

SIR,—I have recently been concerned in a case where a man engaged in demolishing a 14-in. wall 26 ft. above the ground was using a 14-lb. sledgehammer. He lost his balance and fell to the ground, suffering severe injuries.

For the demolition contractors it was submitted that this has been the practice for generations as it is perfectly safe for trained top men to work in this way, and that there have been no known cases of men falling while working in this manner other than this particular incident.

It seems to me to be a terrible indictment of the building industry that this should be considered a "safe" system of work, and that it should even be suggested that there are no alternative methods of demolishing a high wall. Alternative suggestions, such as pulling down by mechanical means, demolishing from temporary platforms or the use of local explosives were derided as impracticable.

The main difficulty, however, was the entire absence of any evidence that any top men had ever fallen while engaged in this way, a factor which I cannot believe to be true.

If this is the approach to applying safe systems of work throughout the industry, then I suggest it is time modern scientific research be employed to ensure the safety of the workmen concerned.

R. A. BINGHAM, [FRICS].
104, High Holborn, London, WC1.

Asphalt Roofing

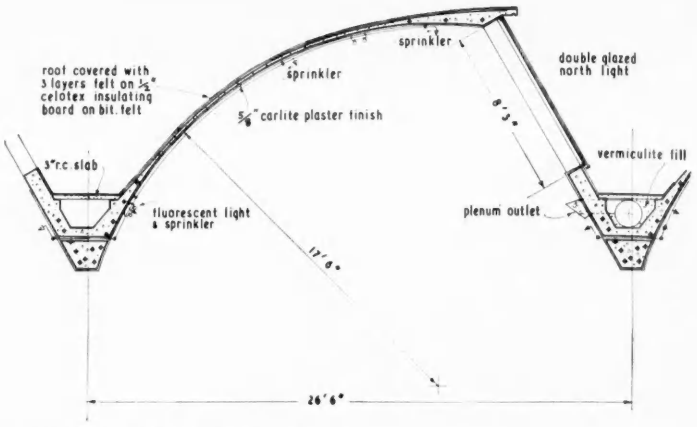
To the Editor of *The Builder*.

SIR,—During my 35 years or more of trading in the mastic asphalt industry, it has always been my belief that the sun is the cause of trouble when shining on the naked surface of any mastic asphalt roof covering. I have experimented in many ways to check this trouble, and have found that the following is the most effective, economical and permanent way I can recommend of doing this.

First of all, the mastic asphalt should be laid ¾in. or 1in. thick in two layers on felt underlay to a solid foundation, and not on unseasoned insulation material which may cause cracks and shrinkage through settlement. The surface should be blinded as close as possible with ¼in. white spar chipping free from dust, and very well pressed flush into the top layer of asphalt which should contain an extra percentage of bitumen. This, being the lighter ingredient, will come to the surface to hold the chipping firmly.

The whole of the covering is thus protected from the sun by a permanent layer of shining white marble which will throw the heat upwards. Rooms underneath this type of roof are acknowledged to be much cooler, and the expansion of steel bedded in the concrete is reduced to practically nil.

C. PASINI, Director.
C. PASINI (IPSWICH) LTD.



Section through one bay of roof.

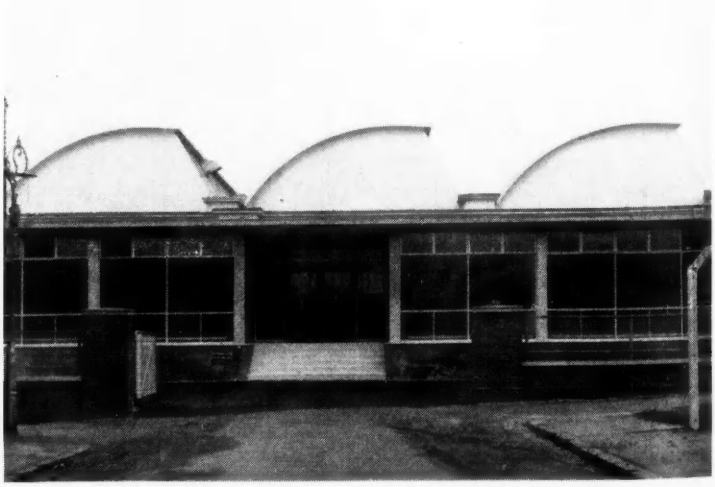
SHOE FACTORY, LOWESTOFT
for Bally's Shoe Factories (Norwich), Ltd.

Architects
BERRY, CRANE & NOBLE FF.RIBA

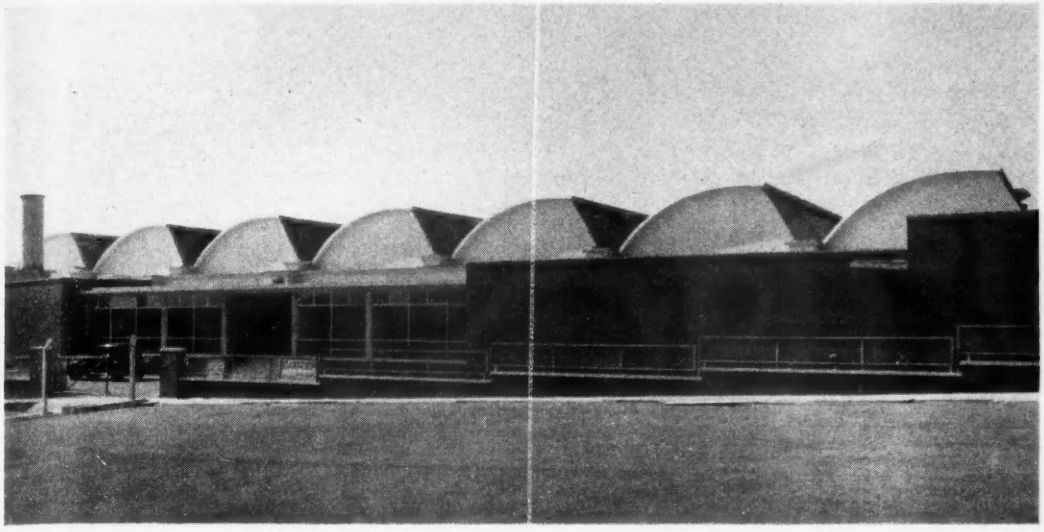
Quantity Surveyors
PHILIP PANK & PARTNERS

Builders
R. G. CARTER, LTD.

CHIEF requirements of the client company were that maintenance costs should be low and that the roof construction should afford maximum natural lighting. Under these conditions a two-storey building was decided on, with main workspace, cloaks, canteen, rest-room and offices at ground level and a secondary workspace, heating, etc., at basement level, the two floors connected by a ramp.



View of entrance to offices.



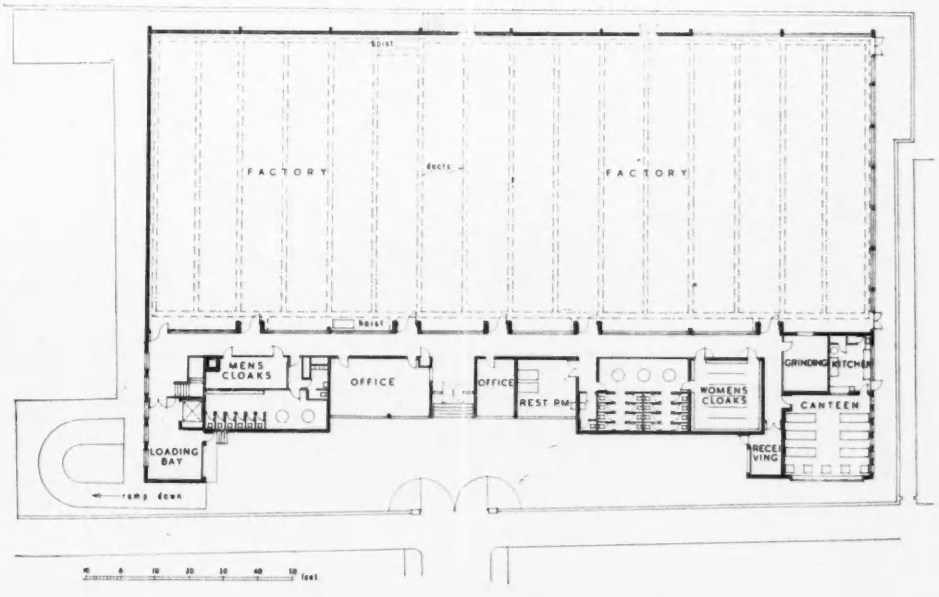
General view of factory.

Construction: Type of construction adopted was an rc framework and a post-tensioned barrel-vault concrete roof with northlights. There are eight bays each of 86 ft. span over the main workspace, giving nearly 18,500 sq. ft. of uninterrupted area. The basement workspace adds another 7,000 sq. ft. The end "gables" of each barrel-vault are of 9 in. reinforced concrete and act as stiffening beams to the vaults. The concrete barrels, on average 2½ in. thick, and the main 86-ft. beams are reinforced by steel cables post-tensioned on the Gifford-Udall system, carried out by the general contractor. Twisteel Reinforcement, Ltd., acted as structural engineers.

Services: An extensive system of Plenum air-conditioning is installed. Electric power, gas and compressed-air services are contained in ducts 14 in. by 8 in. positioned 13 ft. apart in the floor and fitted with removable covers.

Sub-contractors and suppliers were:

Hardwood floors and duct covers, Vigers Bros., Ltd., and Hollis, Ltd.; hot-water, heating and ventilation, A. Pank and Son, Ltd.; plenum to workspaces, "Vectair" panels to offices, cloakrooms, etc., Keith Blackman, Ltd.; steel reinforcement, Twisteel, Ltd.; lift, Express Lift Co., Ltd.; electrical, Eastern Electricity Board (main contract), Electrical Equipment Co. (Leicester), Ltd.; lighting fittings, Crompton Parkinson, Ltd. (fluorescent lighting), and George Forrest and Son, Ltd.; asphalt flooring, Limmer and Trinidad Lake Asphalt Co., Ltd.; felt roofing, insulation and tanking, Bond and Lacey (Norwich), Ltd.; northlights and double glazing, W. H. Heywood and Co., Ltd.; terrazzo paving, Diespeker and Co., Ltd.; "Vynoleum" floor covering to offices, The Adamite Co., Ltd.; plumbing and drainage, W. J. and F. Taylor (Norwich), Ltd.; artificial stone, joinery and metal faced doors, R. G. Carter, Ltd.; sanitary fittings, Adamsez, Ltd.; gas incinerators, Southalls (Birmingham), Ltd.; steel rolling shutters, Kinnear shutters (Arthur L. Gibson and Co., Ltd.); gas installation, Eastern Gas Board; metal windows and toilet cubicles (Roften), Williams and Williams, Ltd.; electrical ventilation fans, Greenwood's and Airvac Ventilating Co., Ltd.; boundary fencing, Barnes and Pye (Norwich), Ltd.; steel balustrading, S. T. Cowell and Sons (Norwich), Ltd.; glazed cement wall finishes (Emalux), John Ellis and Sons, Ltd.; flue linings ("Fosalsil"), Moler Products, Ltd.; facing bricks (2-in. russet facings), Charnwood Forest Brick and Tile Works, Ltd.; plaster, Crotch and Son (Norwich), Ltd.; "Twide" glass domes, T. and W. Ide, Ltd.; cloakroom fittings, Barnes and Pye (Norwich), Ltd.; ironmongery, Nicholls and Clarke, James Gibbons, Ltd., R. Cartwright and Co., Ltd., and Comyn Ching and Co., Ltd.; window opening gear, Teleflex Products, Ltd.; sprinklers, Mather and Platt, Ltd., and site clearance, Mobbs Bros., Ltd. Emulsion paint supplied mainly by Permoglaze, Ltd., and to a small extent by Sissons, Ltd.



News of the Week

Ripon Cathedral Appeal

AN appeal for £100,000 for the repair of Ripon Cathedral has been issued by a committee headed by the Bishop of Ripon. Some of the work necessitated by subsidence on the sloping land at the south-east side is so urgent that repairs have already been started. In addition to damage from subsidence there are dilapidations caused by time, weather, and lack of sufficient resources, state the committee. The consultant architect in charge of the scheme is Professor Sir Albert Richardson, President of the Royal Academy. Under his directions are the cathedral architects, Messrs. Ward, Ruddick and Ward, of York. Contributions to the fund should be sent to the Archdeacon of Richmond, "Repair Ripon Fund," The Crescent, Ripon.

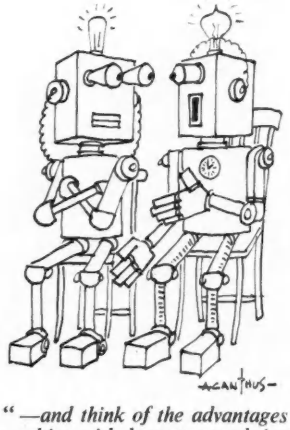
Woodworkers' Pay Demand

THE annual conference of the Amalgamated Society of Woodworkers, which met at Morecambe on Tuesday, demanded a wage increase of 9d. per hour. This decision was taken against the advice of their executive council. The original resolution also proposed that, to secure settlement of the claim, strike action should if necessary be taken. This was amended, and the wages resolution called on the council "to take necessary militant action" to secure settlement.

Should this claim be endorsed by the NFBTO, a claim for 9d. per hour increase will be submitted on behalf of all the unions, 18 in number, next autumn and discussed by the National Joint Council for the Building Industry next January.

Leverhulme Research Awards

AMONG the recipients of Research Grants (tenable for periods up to two years) that have recently been approved by the Leverhulme Trust are the following: M. W. Beresford, MA, Reader in Economic History, University of Leeds: The "new town" in England, 900-1700, with reference to parallel developments in France; E. A. Gee, MA, DPhil, Principal Investigator, Royal Commission on Historical Monuments: Oxford collegiate architecture, 1370-1530; H. Thomas, LRIBA, Assistant Buildings Officer, University of Manchester: the application of architectural acoustics to the design and construction of schools for the deaf. Further information from The Secretary, Leverhulme Research Awards, St. Bridget's House, Bridewell-place, EC4.



"—and think of the advantages working with humans may bring us—a home, children, fixed price contracts . . . !"

COMING EVENTS

MONDAY, MAY 28.

RIBA LIBRARY GROUP.—The work of John Dando Sedding (1838-91), introduced by Mr. H. V. Molesworth Roberts. 66, Portland-place, W1. 6 p.m.

RICS.—Annual general meeting. 12, Great George-street, Westminster, SW1. 5 p.m.

WEDNESDAY, MAY 30.

BRITISH ARCHITECTS' CONFERENCE, Norwich. May 30 to June 2 inclusive. (See page 579.)

ARCHITECTURAL ASSOCIATION. — Ordinary General Meeting. "Health service buildings and other hospitals," by Dr. Stephen Taylor. Dinner 7 p.m. Paper at 8 p.m.

THURSDAY MAY 31.

COUNCIL OF VISUAL EDUCATION.—Annual general meeting followed by "The Appreciation of Design," by Mr. J. F. Wolfenden, CBE. The Housing Centre, 13, Suffolk-street, Haymarket, SW1. 3 p.m.

REGISTERED PLUMBERS' ASSOCIATION.—Annual meeting of General Council. Lecture Hall, Winter Gardens, Eastbourne. Continuing until June 1.

FRIDAY, JUNE 1.

ASSOCIATION OF SPECIAL LIBRARIES AND INFORMATION BUREAUX.—Annual Conference at Brighton. June 1 to 4.

Essay Competition

THE Council for Visual Education are offering prizes for essays on "Beautiful Buildings I Have Seen," by boys and girls in the three age groups 10 to 13, 14 and 15, 16 and over. The prizes, book tokens (value £4 and £2), will be given for the two best essays submitted in each group. Certificates will be awarded for essays of special merit. The aim of the competition is to encourage boys and girls to say what they like best about any building, large or small, they think particularly beautiful and to give reasons for their opinions. There are no restrictions on the age or type of building to be described. Essays must be sent to the Council for Visual Education, 13, Suffolk-street, SW1, by October 1 next.

The Council's annual general meeting will be held on May 31, at the above address, Sir Patrick Abercrombie, FRIBA, MTPI, will preside. Afterwards Mr. J. F. Wolfenden, CBE, Vice-Chancellor of Reading University, will speak on "The Appreciation of Design."

RICS Examinations

THE PART-TIME day courses for the examinations of the Royal Institution of Chartered Surveyors at the Brixton School of Building have been reorganised so that lectures are confined to one day each week from 9.30 a.m. to 8.30 p.m. The course for the first examination commences on September 24 next, and the intermediate and final courses on April 9, 1957. Students are prepared for the building, quantities and valuation sub-divisions of the Institution's examinations. A similar course is provided for the examinations of the Institute of Quantity Surveyors.

RIBA Examination Results

AT THE RIBA Examination for the Office of Building Surveyor under Local Authorities held on April 25, 26 and 27, nine candidates presented themselves and the following were successful: Harold G. Coasby, Leslie Collins, John D. Lilly-white, Terence J. Loyeless, Ivor Riley.

Congress at Lisbon

THE FIFTH CONGRESS of the International Association for Bridge and Structural Engineering is to be held at the invitation of the Portuguese Government in Lisbon, from June 25 to July 2. The themes of the Congress will be as follows: Loading and strength of bridges and structures; slabs and various curved structures in reinforced concrete; welded steel structures; structures in steel and light alloys; special problems of reinforced and prestressed concrete, and practice of reinforced and prestressed concrete. The Congress is open to members of the Association only. Applications to the Hon. Secretary, British Group, IABSE, 11, Upper Belgrave-street, SW1.

Ashmolean Extensions

THE report of the Ashmolean Museum, Oxford, for 1955 states that the University Grants Committee has "agreed to include the erection of the north-south gallery in the 1956 building programme." This extension would have started in 1940 but for the war. It will provide extra exhibition and storage space both for the department of fine art and for that of antiquities, as well as some office accommodation on a mezzanine floor. There have also been consultations with the architect, Sir Howard Robertson, about a new east gallery, to the north of the museum, and the adaptation of the present east gallery.

Appointments

THE British Transport Commission are to establish a single Estate and Rating service for the whole of their undertaking in Scotland. Mr. J. B. Baxter, FRICS, Divisional Surveyor, Scottish Division, British Road Services, has been appointed Estate and Rating Surveyor, Scotland, to take charge of the new service.

FROM "THE BUILDER" OF 1856

Saturday, May 24, 1856

FOOD, CHEAP AND GOOD.—Dr. M'Cormack recommends in a printed form the formation of bread from dough made with water impregnated with carbonic acid got from chalk instead of formed in the dough at the cost of the flour. On a large scale, as for workhouses, the dough should be placed in a machine, the counterpart of the common brick and tile machines, for delivery of the loaves as fast as they can be placed in ovens, and there so arranged as to become crusted all over like the French loaf. This he regards on the whole as the best and cheapest mode of baking yet devised. Some useful instruction as to the preparation of cheap and good stews for the poorer classes is also given.

SOCIETIES

RIBA

Notes from Council Minutes

FOLLOWING are notes from the minutes of the RIBA council meeting, held on May 1:

APPOINTMENTS OF RIBA REPRESENTATIVES: (a) *Code of Practice Committee on Roof Construction for Houses*—C. M. Vine (F); (b) *Code of Practice Committee on Flues for larger Appliances in Buildings*—F. H. Heaven (A); (c) *Conference on Installation of Domestic Solid Fuel Appliances, convened by the Coal Utilisation Council*—Clifford Culpin (F) and John Pinckheard (A); (d) *RIBA Architecture Bronze Medal: Birmingham and Five Counties AA: RIBA representative to serve on Jury to consider Award*—Leonard C. Howitt (F), President, Manchester Society of Architects; (e) *Joint Committee of Professional Institutions to negotiate Remuneration of part-time Lecturers for Local Education Authorities*—J. Kenneth Hicks (F).

RIBA Award for Distinction in Town Planning: The Council approved a recommendation that the RIBA Award for Distinction in Town Planning should be conferred upon Dr. J. Leslie Martin (F) and Mr. Peter Shepheard (A).

RIBA Architecture Bronze Medal: the York and East Yorks Society: The Secretary reported that the Jury entrusted with considering the award of the RIBA Architecture Bronze Medal in the area of the York and East Yorkshire Architectural Society for the three-year period ending December 31, 1955, had made their award in favour of the Cecil Cinema, Kingston-upon-Hull, designed by J. P. Taylor, MBE (F) in association with A. K. Bray (Student) and J. R. Hobson (A). Formal approval was given to this award.

Explanatory Drawings for Bills

Provision of Explanatory Drawings with Bills of Quantities at the Time of Tendering. The Council considered a recommendation from the Practice Committee resulting from a proposal originally put forward by the Joint Consultative Committee of Architects, Quantity Surveyors and Builders. This proposal was to the effect that a set of explanatory drawings should be supplied with bills of Quantities at the time of tendering. The point was made that these would result in closer tendering since it gave tenderers a better opportunity to assess the requirements of the work than could be obtained from a cursory examination of drawings in the architect's office.

The council gave approval to this proposal in principle but in so doing emphasised that the drawings concerned were solely for the purpose of explaining the nature of the scheme and would not form part of the contract in any sense.

Architectural Control under the Town and Country Planning Act, 1947: The Council gave approval to a report submitted by the Joint Committee composed of representatives of the Public Relations Committee, the Town and Country Planning and Housing Committee and the Salaried and Official Architects' Committee. The report presented a review of the working of the Act in regard to the operation of aesthetic controls. The Joint Committee came to the conclusion that the inadequacy and unpopularity of the controls was only a symptom of the wider failure of the planning machine to justify to public opinion the admitted inconvenience of its restrictions by the conspicuous success of its results, either in the field of creative reconstruction, or in that of protection of the existing scene.

The following were mentioned as among the notable weaknesses of the existing system in these fields: The Ministry of Housing and Local Government originally visualised as a constructive organisation, has gradually been reduced to the role of administering the Planning and Housing Acts. Other departments of State have acquired too much power. The regional physical planning machinery has been similarly reduced. Local planning authorities have delegated their powers to officers without the appropriate qualifications to carry out the work. A number of activities whose effect on the landscape is decisive do not come under planning control, e.g., Agriculture, Public Utilities, Power Stations, etc.

At the local planning level, the report asserts that the key to more effective handling of architectural and landscape problems is to get the right men into the right jobs. In this connection architects are the men properly qualified to be employed in a capacity which should permit creative work as well as the routine of development control.

The Council gave approval to the following statement of the Royal Institute's policy:—

A. That all County Boroughs should employ an Architect as a Chief Officer and that he should also be responsible for Town Planning.

B. That all large Boroughs and Urban Districts should employ an Architect, with local planning duties depending on the degree of delegation.

C. That in case where County Planning Officers are not Architects, County Architects should advise Planning Committees on development control in small towns and in rural districts and villages, and should be adequately staffed to enable them to deal with broad problems of landscape as well as building.

The Council authorised the Joint Committee to continue with a study of methods whereby local authorities generally might be persuaded to put these principles into practice.

Maintenance Scholarships in Architecture

THE Royal Institute of British Architects offer for award in July, 1956, the following Maintenance Scholarships in Architecture, tenable from October 1 next:—

Three RIBA Houston Maintenance Scholarships of a maximum value of £125 a year each. They are available for any stage of training at a Recognised School of Architecture, and are awarded in the first instance for one year. They are renewable from year to year. (The Houston Maintenance Scholarships are for the purpose of providing educational and maintenance allowances for the sons of architects and artists, who may be, or at the time of their death were, in impecunious circumstances, whether such architects or artists be alive or dead.)

"The Builder" Maintenance Scholarship. This scholarship is of the value of £75 a year and is tenable as an ordinary Maintenance Scholarship or as a 4th and 5th year Maintenance Scholarship.

The Hartley Hogarth Maintenance Scholarship to provide grants towards the fees for architectural study at a Recognised School of Architecture, is available to any student or students who produce satisfactory evidence of having been resident in the Borough of Keighley for a period of 10 years prior to October 1 of the year in which the application is made. Its value will be that of the fees of the School of Architecture selected.

The Artists' General Benevolent Institution Maintenance Scholarship of a maximum of £125 a year is available in the first instance for one year and renewable for two further periods of one year each. (The Artists' General Benevolent Institution Maintenance Scholarship is open to orphans or sons or daughters of an architect in private practice or an artist. Applications for this scholarship must be made by Jue 1.)

An RIBA 4th and 5th year Maintenance Scholarship of £60 to enable a student who has passed the Intermediate stage to complete an approved course at a School of Architecture recognised for exemption from the RIBA Final Examination.

The scholarships are intended to enable promising students, whose parents or guardians have not the necessary means, to attend approved courses at the Schools of Architecture recognised for exemption from the RIBA examinations. Students already taking such a course are also eligible to apply for a scholarship. The scholarships are available only for students who are British by birth or naturalisation.

The value of the scholarships up to the limits stated, will depend on the financial circumstances of the parents or guardians of the candidate.

Applications to be made to the Secretary, the Board of Architectural Education, RIBA, 66, Portland-place, London, W1. The closing date for the receipt of applications, duly completed, is June 29, 1956, except in the case of the Artists' General Benevolent Institution Maintenance Scholarship, the closing date for which is June 1, 1956. The awards will be announced in July.

RIAS

Awards to Students

AWARDS in the competitions promoted annually by the Royal Incorporation of Architects in Scotland have been made as follows:—

Rowand Anderson Studentship—No award. The Rutland Prize—No award; hon. mention and £15—Thomas S. D. Gibson, Aberdeen School of Architecture, and John N. Mutch, Dundee College of Art. The Incorporation Prize (£50)—Equal award—William D. Hunter, Glasgow School of Architecture, and Charles T. Donaldson, Aberdeen School of Architecture; hon. mention—William Cunningham, Glasgow School of Architecture, and Hector McDonald, Aberdeen School of Architecture. Lorimer Memorial Prize (£10)—John Hepburn, Glasgow School of Architecture. The Maclaren Travelling Fellowship (£210)—Michael D. Laird, Edinburgh.

[INSTITUTE OF REGISTERED] ARCHITECTS

Election of Officers, 1956-57

THE following officers have been elected by the Institute of Registered Architects for the ensuing year: Mr. D. Plaskett Marshall, FRIBA, president; Mr. Basil C. King, ARIBA, chairman of council; and Mr. Frederick Adkins, ARIBA, vice-chairman.

PLANNING APPEALS PROCEDURE

TCPA Evidence for Government Committee of Inquiry

THE Town and Country Planning Association have issued the written evidence submitted by them to the Government Committee of Inquiry into the practice and procedure of administrative tribunals.

Planning Appeals

3: The Association considers that the decision in this type of case is essentially an administrative one for which the Minister of Housing and Local Government must accept the final responsibility. The Minister must be guided by the facts, but he must also be free to decide each case in accordance with his conception of what public policy demands. If the Minister's ideas of public policy are thought to be wrong, he must of course answer to Parliament; but it is difficult to see how he could be made answerable to a court of law on matters of policy. It would not seem desirable to extend the jurisdiction of the courts beyond those cases in which, it is believed, they are prepared to intervene at present—namely (a) where the Minister's decision is thought to be *ultra vires;* (b) where there has been some failure to observe the correct procedure or the rules of natural justice; (c) where there is an allegation of bad faith.

4: In these circumstances, the method of determining planning appeals should remain broadly the same as at present —namely, the holding of a public local inquiry or hearing followed by the Minister's decision. Within this broad framework, however, the Association recommends a number of changes, which are set out below.

5: There are various cases in which the local planning authority must consult other public bodies before giving a decision, and in some cases the Ministry of Transport may direct the authority as to the form which the decision shall take. Unfortunately, the Ministry of Transport does not always indicate its reasons for the direction; it should always state its reasons. In every case, the applicant should be entitled to see the local authority's submission to the Ministry or other body concerned, and the recommendation or direction which resulted.

6: In many cases, the local planning authority does not give full and precise reasons for refusing planning permission or for attaching conditions to a grant of permission. In other cases the appellant does not give any clear indication of the grounds on which his appeal rests, although the form of appeal requires that he should do so. Before an appeal both sides should be required to furnish a general statement of their case. If the appellant on lodging the appeal satisfies the Minister that the authority has given such imprecise reasons for its decision that he is at a disadvantage in formulating his case, the Minister should require the authority to furnish specific reasons well before the inquiry or hearing is opened.

7: The inspector conducting public local inquiries under the Town and Country Planning Act, 1947, has power (under Section 290 of the Local Government Act, 1933) to subpoena witnesses and to require the production of documents. It is doubtful, however, whether the same power exists in relation to hearings other than public local inquiries. Section 290 of the 1933 Act should be extended to hearings of this type.

8: Where other Government Departments are interested in the subject of a planning inquiry, they should put their views before it in precisely the same way as does any other interested party. It has often been suggested that it is not constitutionally proper for the officials of one Department to appear and be subject to cross-examination at an inquiry held on behalf of another Department. This theory is hardly tenable in view of the number of cases in which officials have appeared in this way (in at least one case on subpoena), and this should be the invariable practice.

9: In some cases the Minister now obtains additional information from other Government Departments after the inquiry has been closed and the Inspector's report has been received. Particular care should be taken to ensure that it does not become the means whereby other Departments represent their own views to the Minister privately (a practice which is entirely reprehensible) instead of at the inquiry as recommended in paragraph 6.

10: The Minister should give full and clear reasons for his decision. Where (as is often the case) the Minister's letter summarises the arguments put forward at the inquiry on behalf of the parties, the Minister should indicate which of the arguments he has adopted in reaching his decision.

Appeals Under Section 17 of the 1947 Act

11: Appeals in this type of case differ in essence from other appeals under Part III of the Town and Country Planning Act, 1947. The Minister's duty under section 17 is to determine as a matter of law whether a proposed operation or change of use would constitute "development." The decision is therefore a judicial one into which policy considerations cannot enter. It is not essential, stated the Association, that this function should be entrusted to the Minister and it could equally well be discharged by a specifically judicial body such as the Lands Tribunal.

Development Plan Procedure

12: The Association's views on development plan procedure are broadly similar to those set out above in relation to planning inquiries. Here again, although the Minister must be guided by the facts, the decision is essentially a policy one for which the Minister is answerable only to Parliament.

13: There is, however, an important difference in practice. A public local inquiry or hearing is held only if objections or representations have been made by interested persons or organisations; even then the inquiry is into the objections and representations and not into the plan as such. But the Minister may decide to modify features of the draft plan in respect of which no objections or representations have been made. The Association considers that as far as possible the Minister's decision should be based on facts ascertained at a public inquiry or hearing. There is no reason in principle why other Government Departments should not present their objections and representations in the same way as other persons and bodies. This may involve an increase in the number of inquiries or hearings, but that will be worth while if it increases public confidence in the system. It is also to the advantage of everyone—Minister, local authority and public—that, as far as possible, information supplied by Government Departments should be tested at an inquiry. A public inquiry or hearing should not be regarded as merely an opportunity for objectors to state their case; it should be regarded as an essential part of the machinery for establishing the facts which the Minister needs in order to reach a decision.

14. There is a very grave fault in the procedure for confirming development plans in that the draft plan may be modified in an important detail without those affected having a chance to put their points of view to the Minister. This can arise in various ways.

Case (1). The Minister may himself re-zone substantial areas of land; thus, in the case of the County of London plan, the Minister rezoned as residential some hundreds of acres which had been zoned in the draft plan for industrial use.

Case (2). An objector may persuade the local planning authority to agree to his objection. He then appears at the public inquiry, makes his case to the Inspector for the benefit of the Minister, and the local planning authority offer no opposition. If the Minister then modifies the plan in accordance with the agreed objection, neighbouring owners and interested bodies may have been prejudiced.

In case (1), there appears to be some doubt whether the Minister is empowered to act in this manner. The Association expresses no opinion on this aspect of the matter, but recommends that in both cases the inquiry should be re-opened after re-publication of the Minister's proposals or the agreed objections as the case may be.

Compulsory Purchase Procedure

15: The Association considers that there is an important distinction between those cases in which the Minister is the confirming authority for a compulsory purchase order made by a local authority or other public body, and those in which he is also the acquiring authority. In both cases the decision is a policy one which should be subject to review only by Parliament; but, where the Minister holds a public inquiry or hearing into objections to an order made by himself, he should appoint an independent inspector whose report (in the absence of security reasons) should be published. Apart from this, the Association's views on compulsory purchase procedure are the same as those expressed in paragraphs 12 & 13 in relation to development plans.

IN PARLIAMENT

Unemployment on Tyneside

MR. JOHN McKAY asked the Minister of Labour if, in view of the concern felt by the Tyne Branch of the National Federation of Building Trades Operatives at the prospect of unemployment in the building trades, he would make a statement; and if he would also give the numbers of unemployed in the building trade in the Tyneside district in each quarter of 1955 and for the first quarter of 1956.

MR. IAIN MACLEOD, in a written reply on May 11, stated: Recent national figures of unemployment in the building and civil engineering industries compare favourably with those of a year ago. In the Tyneside area the quarterly figures of wholly unemployed males were: March, 1955, 709; June, 375; September, 337; December, 476, March, 1956, 578.

Oil Projects, Southampton

LORD TEYNHAM asked the Government in the House of Lords on May 15 if they were aware that the Southampton Harbour Board had approved in principle the construction of oil jetties on the shore near Washash for a proposed new oil refinery; whether they considered that in the interests of defence such installations should be spread rather than have two refineries in the same area; and whether a public inquiry would be held to enable the substantial opposition to this proposal to be heard.

The EARL OF MUNSTER, Minister without Portfolio, said that the Minister of Transport and Civil Aviation had been informed that the Southampton Harbour Board had agreed in principle to the establishment of a new oil jetty in Southampton Water, subject to the necessary consents being obtained. Any proposal for the erection of a new oil refinery required an industrial development certificate and planning permission. So far neither had been applied for.

LORD TEYNHAM asked if it was not thought that an additional refinery would add to the large quantities of oil fuels already being flung on the beaches in the vicinity.

The EARL OF MUNSTER said that that question must ultimately be decided when an industrial development certificate and planning permission were applied for.

Housing the Aged, Scotland

MR. LAWSON asked the Secretary of State for Scotland, for a statement on his future housing policy for the aged.

MR. JAMES STUART replying on May 15, said: In April, 1952, the Scottish Housing Advisory Committee gave me a report containing, among other things, detailed recommendations about the housing of older people which I commended to local authorities. More recently, my department have collaborated with the Corporation of Edinburgh in designing a demonstration block for old people which should be started soon. The proportion of houses for this class in approved schemes has trebled during the past four years and is increasing. I am anxious that local authorities and voluntary bodies interested in the welfare of old people should intensify their work in this important field and I shall do all that I can to ensure that these encouraging developments continue.

MR. LAWSON also asked which local authorities provided special housing accommodation for the aged; and what was the number of such houses so provided.

MR. STUART: About 10,000 small houses with one or two rooms have been approved since the war, the majority for old people. I am sending Mr. Lawson a list of the 156 local authorities concerned.

14-Storey Building, Glasgow

MR. JOHN RANKIN asked the Secretary of State of Scotland, whether he would revoke the planning permission granted to Littlewood's Mail Order Stores Ltd., to erect a 14-storey building on ground between Miller-street and Queen-street, Glasgow.

MR. STUART:—The site of the proposed building which has, I understand, been approved by the Corporation of Glasgow as planning authority, is in an area zoned for commercial purposes in the corporation's approved development plan. Any question of modifying the development plan, or revoking the permission already given, is a matter in the first instance for the corporation.

MR. RANKIN asked if Mr. Stuart was aware that the firm had abandoned the project because they were alarmed at the Government's credit squeeze on the spending power of the housewives. If the site was to be permanently abandoned what would happen to the steel which had been allocated to the building?

MR. STUART said that he was not aware of the details, but he could obtain them and let Mr. Rankin have them.

Development Area Factories

MR. FREDERICK WILLEY asked the President of the Board of Trade on May 15 why, in his department's estimates, the estimate for the acquisition of land and the erection of buildings in development areas was £1m. less than in 1955-56.

MR. DEREK WALKER-SMITH, Parliamentary Secretary, Board of Trade in a written reply stated.—We propose to build fewer factories this year because the low level of unemployment in many of these areas enables us to make a useful economy.

Science Centre Plans

MR. FREDERICK WILLEY asked the Parliamentary Secretary to the Ministry of Works, as representing the Lord President of the Council, what were the Government's plans for a National Science Centre.

MR. BEVINS, in a written reply on May 15, stated:—In 1952 it was stated that the planning of the Science Centre had had to be deferred, and I regret to say that that decision is still unchanged. Plans for a new Patent Office and Scientific Reference Library on the South Bank are, however, under discussion.

Plumbers' Annual Meeting

THE annual meeting of the general council of the Registered Plumbers' Association will be held in the Lecture Hall, Winter Gardens, Eastbourne, on May 31 and June 1, under the chairmanship of Mr. Alban D. R. Caroe, FRIBA.

A special feature this year will be a paper given by Mr. A. Sobolev, BSc(Eng), AMIMechE, on "Design in Plumbing."

HISTORIC BUILDINGS IN ENGLAND AND WALES

Councils' Annual Reports

THE Historic Buildings Council for England has prepared its third annual report, 1955, published by HM Stationery Office, price 1s. 3d. The following are extracts: The result of the recommendations approved was the offer in 1955 of 139 grants and the decision on 303 applications that no aid could be given. The total value of the grants offered and accepted in 1955 was £370,756, which compares with a value of £254,304 for the smaller number of grants made in the previous year. In 1955 it was necessary for the preservation of particular buildings to offer some grants for much larger amounts than had been made previously. A grant of £30,000 and two grants to the National Trust of £24,000 and £20,000 were approved.

As a result of the grants accepted on the conditions that the public should be given a reasonable opportunity to inspect the features of interest, the owners of 83 historic buildings have accepted a commitment to open the house to the public on regular days in the summer months. Some of these houses were, of course, already open to visitors.

Although the increasing facilities for visiting many of the finest buildings in the country are of great advantage to the general public, the financial advantages which owners obtain from opening their houses are sometimes over-estimated. Only a relatively small number of buildings which attract an exceptionally large number of visitors produce any significant profit for the owner. Most houses attract less than 10,000 visitors each year, and the receipts may not even meet the additional expenditure on guides, advertisement and cleaning which is necessitated by the opening of the house.

Wales

In the third annual report, 1955, published by HM Stationery Office, price 6d., of the Historic Buildings Council for Wales, it is stated that the total value of grants made in the year was £17,750. The report continues:—

The work carried out during 1955 by the Council should, we suggest, not be regarded as having been limited to the consideration of the applications received during the year. We held a number of meetings in various parts of the country, where we have had an opportunity to study the problem of the preservation of historic buildings in various parts of Wales, and have been able in this way to start to make an appreciation of the number and condition.

It is already clear to us that one problem to which we must give increasing attention in the next few years is that of ensuring the preservation of some of the finest examples of characteristic Welsh buildings, such as the farmhouse and early cottage.

OBITUARY

J. A. Dempster, FRIBA

WE REGRET to report the death of Mr. J. A. Dempster, FRIBA, AILA, the Divisional Chief Architect (NE Division) of the National Coal Board, which took place May 10. He was 63.

CONTRACTORS' MECHANICAL PLANT

BRS Survey of Annual Costs

IN the absence of information on the maintenance and replacement costs of contractors' mechanical plant, and on the way these costs vary with use and with changes in the levels of prices, it is difficult to decide under what conditions, or to what extent, it is economic to use plant, or to choose between different types of plant. A survey has, therefore, been made recently by Mr. P. A. Stone, of the Building Research Station in order to provide such data. Following are substantial extracts from his report.

A pilot inquiry was first made amongst contractors and local authorities with whom the Building Research Station had worked on other investigations. It was found that the range and number of items of mechanical plant decreased with decreasing size of the undertaking, as measured by the number of operatives employed, even more rapidly than might have been expected. Furthermore, the smaller firms did not usually keep records of the costs and use of their plant in a form suitable for the purpose of this inquiry. The larger undertakings usually pursue a policy of preventive maintenance which necessitates inspections and frequent rebuilds, while the smaller undertakings more often await the need before carrying out repairs, so that their figures, even if available, would not measure the costs of the same standard of maintenance. It was decided, therefore, to limit further inquiries to the undertakings employing at least 1,000 operatives.

The Sample

In all, 72 contractors and 47 local authorities were approached. Some of the contractors were found to be operating also as plant hire firms, and since it was not known how far this activity might affect the maintenance costs, a few plant hire firms were included. Three-quarters of the undertakings agreed to co-operate and an interview was arranged with most of these. Data were obtained in all from 54 undertakings. This is considered a satisfactory result for an inquiry of this sort.

The Information Collected

The information required for each item of plant was as follows:

(*a*) Specification of plant and accessories, e.g., type, size, manufacturer, fuel.

(*b*) Date of purchase and price, and whether new or second hand.

(*c*) If sold or scrapped, date of disposal, and price, if any.

(*d*) Net annual expenditure on repairs and maintenance, year by year, for as long as possible. This item includes the cost of repairs, overhauls and rebuilds, but not that of greasing, cleaning and other day-to-day maintenance carried out by the plant operator. Where the figures for net labour and materials were not available the gross figures, including overheads, were taken.

(*e*) Percentage added to repair and maintenance costs to cover labour on-costs, workshop overheads, administration and storage.

(*f*) Annual working time, year by year, for as long as possible.

The groups of plant about which information was collected were :

1. Mixers and mortar mills.
2. Materials hoisting plant, e.g., cranes, hoists, elevators.
3. Material moving plant, e.g., conveyors, powered barrows, monorail trucks.
4. Earth moving plant, e.g., dumpers, excavators, shovels, trenchers, scrapers, dozers, tractors.
5. Powered tools, e.g., hammers, saws, paint sprays.
6. Compressors and compressor tools, e.g., breakers, rammers.
7. Pumps.
8. Rollers.

Thus all the main types of contractors' mechanical plant were included, only such specialised items as road surfacing equipment and piling equipment being excluded.

Most of the data obtained were in respect of the period 1950-53, although a few undertakings were able to provide data for a considerably longer period. Some idea of the extent of the information can be gained from the fact that maintenance costs covering about 20,000 machine-years were obtained.

Analysis of the Data

The object of the analysis is, of course, to build up estimates of the various categories of expenditure, which arise in the use of contractors' mechanical plant. Because of their differing nature, however, the data relating to the various factors require somewhat different treatment. It should be emphasised that the present paper is concerned with the costs of owning and managing a plant pool; running costs, including such items as the wages of the plant operators, consumable stores and day-to-day maintenance are excluded.

Maintenance. The chief factors likely to affect maintenance costs are the levels of prices, the age of the machine, and the way in which it is worked. The effects of changing levels of prices can be removed by revaluing the annual maintenance costs on the basis of the prices at the original year of purchase. It is not, of course, possible to revalue each item of maintenance separately ; to do this it would have been necessary to have had complete records of the labour and material content of each job. Instead, each annual total for maintenance was multiplied by the ratio :

$$\frac{\text{the index measuring the general level of maintenance costs in the original year of purchase}}{\text{the index for the year to which the maintenance expenditure refers}}$$

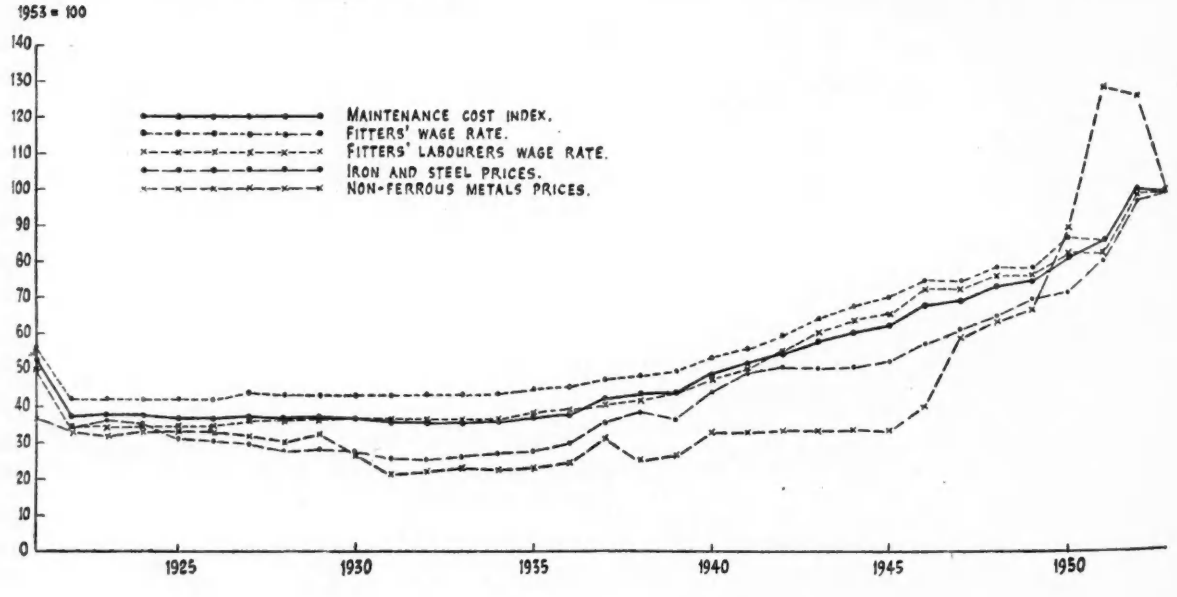


FIG. 1. MECHANICAL PLANT MAINTENANCE COST INDEX

This index, Table 1, measures the changes with time in the costs of carrying out similar repairs. Theoretically, it should be based on the prices of spares and raw materials and the labour rates of fitters and fitters' labourers. In fact, it was not practicable to obtain the prices of spares, or for that matter, the prices of machines on the scale that would have been necessary.

The index finally used was based on fitters' and fitters' labourers' wage rates, and on the price indices for "iron and steel" and "non-ferrous metals." These wages and price indices were combined with weights 48, 28, 20 and 4, respectively. The proportion of fitters to fitters' labourers is that used by Bowley, and that between "iron and steel" and "non-ferrous metals" is taken from the Board of Trade Wholesale Prices Index of Mechanical Engineering Materials. The relationship between labour and materials was based on an analysis of maintenance expenditure, and material from the Census of Production. Various combinations were tried but since the various basic indices did not, over the period of prime importance, move much out of step (Fig. 1) changes of weight did not make any important differences to the final index. Similarly the index was not sensibly changed by the inclusion or exclusion of the marginal materials. The final index

TABLE I
MECHANICAL PLANT — MAINTENANCE COST INDEX 1953 = 100

Year	Maintenance Cost Index	Year	Maintenance Cost Index
1921	53	1938	43
1922	37	1939	44
1923	38	1940	49
1924	38	1941	52
1925	37	1942	55
1926	37	1943	59
1927	38	1944	61
1928	37	1945	64
1929	38	1946	69
1930	37	1947	71
1931	37	1948	75
1932	37	1949	76
1933	37	1950	83
1934	37	1951	86
1935	38	1952	101
1936	39	1953	100
1937	42		

(Table 1) agrees reasonably well with the limited information which was available of changes in the price of plant.

The Results

Maintenance Costs.—Expenditure on maintenance will depend, to some extent, on the ages to which plant is kept. If plant is scrapped after a few years the level of average annual maintenance costs will be comparatively low, since very few of the components will need replacing. The longer the plant is kept, the greater the proportion of components which will require replacing, and the greater the proportion that will need replacing several times. The survey showed that plant was being kept for comparatively long periods, probably for the length of life of the frame and other main non-moving parts. The way the percentages of maintenance to price of machine when new changed with age, is illustrated by Fig. 2. It will be seen that they follow broadly the pattern which might be expected, but the behaviour of the heavy tractors is somewhat anomalous. The maintenance percentages can be expected to fall towards the end of the life of the plant, since it would not be economic to replace components, if at all avoidable, immediately prior to scrapping.

Data were usually available for both local authorities and contractors, and it was, therefore, possible to compare the levels for the one type of undertaking as against the other. For only four types of plant did there appear to be any real difference but in each case the local authority level was the lower. The differences seem to be associated to some extent with the type and conditions of work undertaken.

The estimated annual net maintenance percentages are set out in Table II. The figures given are usually the arithmetic means of the observations but where necessary an adjustment was made to allow for a disproportionate number of observations at certain ages. The figures support the usual contentions as to the relative maintenance costs of plant fitted with engines using the different fuels. Petrol-driven plant has always the highest costs; diesel plant has usually greater costs than electric although in one or two cases there was no clearly marked difference, and in general, electric and steam-driven plant have about the same maintenance costs. Of course, the relative difference will depend on the relation of the engine costs to those of the rest of the machine. The percentages did not appear to vary with the size of the machine.

Life of Plant.—The relative numbers scrapped at each year of age are determined

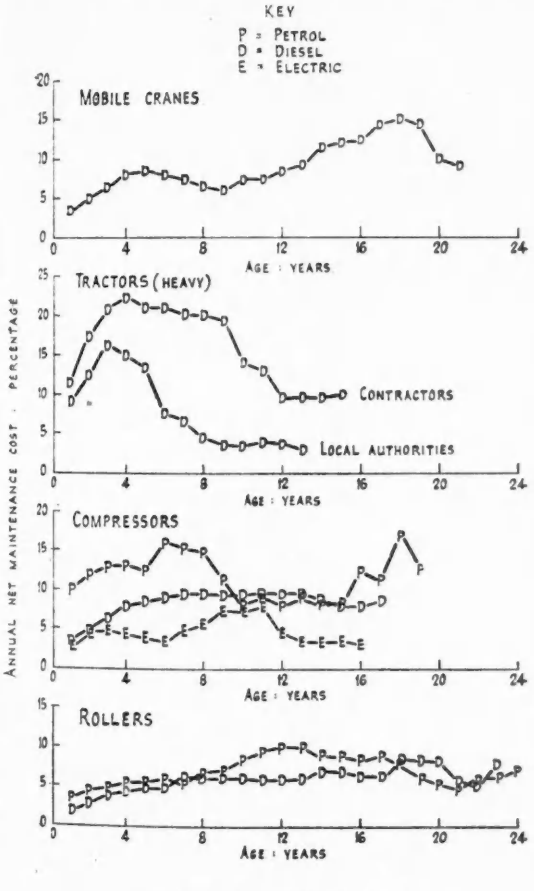


FIG. 2. MAINTENANCE COST : PERCENTAGES OF PRICE OF PLANT WHEN NEW.

TABLE II
ANNUAL NET MAINTENANCE COST PERCENTAGES

Type of Plant	Net Maintenance* Cost Percentages				Number of Observations† Available			
	Petrol	Diesel	Electric	Steam	Petrol	Diesel	Electric	Steam
Mixers and Mortar Mills								
Mixers: Local Authorities	7	6	—	—	1,012	150	—	—
Contractors	13	12	11	—	930	531	—	—
Mortar Mills	17	15	—	—	104	—	—	—
Material Hoisting Plant								
Cranes: Mobile	10	8	—	—	—	722	—	—
Derrick	—	—	4	4	—	—	158	—
Rail Mounted	—	—	4	4	—	—	—	88
Rail Mounted Tower	—	—	4	—	—	—	—	—
Hoists	9	8	7	—	123	117	—	—
Material Moving Plant								
Dumpers: Local Authorities	5	3	—	—	121	203	—	—
Contractors	13	11	—	—	478	—	—	—
Levelling and Digging Plant								
Excavators	—	9	—	—	—	1,060	—	—
Tractors: Local Authorities	10	9	—	—	99	94	—	—
Contractors	17	16	—	—	—	395	—	—
Shovels and Loaders:								
Local Authorities	11	—	—	—	419	—	—	—
Contractors	18	—	—	—	56	—	—	—
Trenchers	—	9	—	—	—	52	—	—
Powered Tools								
Hammers	—	—	16	—	—	—	125	—
Saw Benches	12	—	5	—	63	—	—	—
Hand Saws	—	—	16	—	—	—	—	—
Compressor Equipment								
Compressors	11	8	6	—	182	970	227	—
Independent Compressor Tools	7	—	—	—	670	—	—	—
Pumps								
Concrete Pumps: (Mechanical)	—	9	9	—	—	46	57	—
Water Pumps:								
Local Authorities	7	—	—	—	363	—	—	—
Contractors	18	—	17	—	521	—	199	—
Rollers	7	6	—	4	1,111	1,287	—	896

* The cost of day-to-day maintenance is not included in the above figures.

† If no figure is given it indicates that the number of observations was too small, or too badly spread over time, to provide any valid evidence on its own, and that analogies with other types of plant have been used as well in estimating the ratio.

by a number of factors. Plant is naturally heterogeneous and some will fail mechanically during the early years of life and not be worth repairing, although the bulk of the machines, provided they are properly maintained, will have a long useful life. Some plant, otherwise worth repairing, will, of course, be scrapped as obsolete. The actual ages to which plant can usefully be kept will vary with the construction of the plant and the methods of working it. The length of life is also determined to an important degree by management policy; it is believed that at one time plant was regarded more as a consumable than as a capital asset, but today careful use and maintenance is general practice and as a result the life of plant is much greater than was perhaps once usual. The average life of most types of plant is now of the order of 15 to 20 years; for steam plant it is rather longer. The probabilities of scrapping do not approach unity in most cases earlier than the early twenties and the maximum rates of replacement do not usually occur before the plant is 20 years old.

The replacement cost percentages are the average amounts which must be set aside each year in order to replace the members of a fleet of plant as they are scrapped. During the early years after the purchase of the plant the amounts thus set aside will be more than required to meet the costs of replacement and the excess will accumulate in a fund which will earn interest and which will be drawn upon in later years when the annual replacement costs will be greater than the amounts set aside annually. In practice the amount available in the fund will be used to offset temporarily part of the loan initially taken to purchase the plant. This is financially equivalent to the sum in the replacement fund being invested at the interest rate applicable to this loan. It will be appreciated, of course, that the replacement percentage gives the average charge; for single machines the reserve may be greater or less than that needed but the difference between the actual and predicted reserve will lessen as the pool of machines increases; the fact that the machines will be of different types and ages does not affect the averaging process.

The replacement percentages are set out in detail in Table III. Those based on observed probabilities of scrapping (Figs. 3 and 4) are starred. Large numbers of observations are necessary in order to obtain reliable estimates of the probability of scrapping, and the observations must be reasonably spread over the possible life of each type of plant. These conditions were satisfactorily fulfilled for some types of plant, and in some other cases the data were considered sufficient, when taken together with an appraisal of the mechanical structure of the machines, to justify linking the plant types with those for which adequate data were available.

It will be noticed from Table III that small changes in the rate of interest assumed make little difference to the size of the replacement percentages. Over most of the range of the plant considered the percentages fall 0.15 for an increase in the rate of interest of 0.5 per cent., although this relationship will not hold good much beyond the limits shown in the table.

TABLE III
REPLACEMENT COST PERCENTAGES

Type of Plant	*Percentage of Current Initial Cost to be taken as the Annual Charge when capital is borrowed at a rate of interest of :*		
	4 *per cent*	4½ *per cent*	5 *per cent*
Mixers and Mortar Mills			
*Mixers	4.30	4.15	4.00
*Mortar Mills	4.80	4.65	4.50
Material Hoisting Plant			
Cranes (Derrick and Rail Mounted)	1.40	1.30	1.20
*Cranes (Mobile)	3.75	3.60	3.45
Conveyors, Elevators, *Hoists and Winches	3.00	2.85	2.70
Material Moving Plant			
*Dumpers and Powered Barrows	4.95	4.80	4.65
Levelling and Digging Equipment			
*Excavators	3.15	3.00	2.85
*Tractors and other Tractor-based equipment	3.85	3.70	3.55
Trenchers	4.95	4.80	4.65
Powered Tools			
*Electric Hammers	4.70	4.55	4.40
Sawbenches	3.00	2.85	2.70
Compressor Equipment			
*Compressors	3.15	3.00	2.85
*Breakers, *Rammers, *Vibrators and other self-powered compressor tools	4.25	4.10	3.95
Pumps			
Concrete Pumps	4.30	4.15	4.00
*Water Pumps	3.50	3.35	3.20
Rollers			
Petrol or *Diesel	2.70	2.55	2.40
*Steam	1.40	1.30	1.20

* Based on observed probabilities of scrapping

No allowance has been made for the scrap value of the machines since such values are generally very low, representing only a few per cent. of the initial value of the plant, and are subject to fairly wide fluctuations in accordance with the value of scrap metal. It is suggested that any scrap value obtained can be credited to the reserve as a contingency allowance.

For normal accountancy purposes, plant is often written off over very short periods, say, four or five years, or even less. These periods bear little relation to the actual life of the plant and their use has the effect of increasing the apparent annual costs over the period of depreciation by around 50 to 100 per cent. Any plant sold relatively early in its actual life leads generally to a substantial adjustment in the reserve fund. Less distortion arises if the depreciation rates allowed for tax purposes are used, since the expectations of life upon which they are based lie fairly close to those established above. Although this procedure is fundamentally different from that set out in the present paper and results in very different levels of replacement charges for individual items of plant, the average charges will be much the same by either method if the fleet is large and well-balanced in terms of plant ages.

Usage Rates.—The information on usage is less well substantiated than the information on costs. This is partly because the variables measured are less precise and the quantities are based on site observations, and partly because only a small proportion of the undertakings collated the usage data in a form suitable for analysis. The information given in Table IV indicates, for local authority plant, no marked differences in the working time for various ages ; such figures as were available for contractors' plant similarly supported the opinion that properly maintained plant remains mechanically reliable to an advanced age. The data for local authority plant suggest that the usage rates for dumpers, excavators and shovels decline at an average of just over 30 hours for each year of age. For other types of plant the rate of decline is even less marked. Perhaps more striking is the low level of working hours which the figures indicate as normal; the level is lower for local authorities than contractors, particularly for heavy plant (Table V). Site time is, of course, much greater than working time (Table VI). The difference between the two is mainly idle time, since recorded site break-down time is only about 50 hours a year for most types of plant.

Overheads.—The overheads were divided into those arising from the operation of the repair shop and those arising from the management of plant. The overheads finally estimated were considered sufficient to cover all costs without any subsidy from other sectors of the firm. To do this required, on average, about 40 per cent. of the net maintenance costs to cover the overheads of the repair shop, and 10 per cent. of the net annual charge to cover the cost of handling and managing the plant pool.

Insurance.—The cost of the benefits and services obtained by effecting engineering insurance is included in the maintenance costs and it is therefore unnecessary to make an allowance for it in the form of engineering insurance premiums. On the other hand, an allowance must be made for the risks arising from third party road and site risks, in so far as these arise from the employment of plant and for the risk from fire, theft, extraneous and other damage to the plant itself. The cost of the cover for these risks can be charged on the basis of the insurance premiums required to cover them, irrespective of whether insurance is, in fact, effected or not. The appropriate rates have been obtained from the industry and for con-

TABLE IV
CHANGES IN WORKING TIME WITH AGE FOR LOCAL AUTHORITY PLANT
(*Average hours worked per year*)

Age (years)	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54
Type of Plant											
Mixers	500	500	400	300	300						
Mobile Cranes	900	800	200	1,100	1,400						
Dumpers	900	800	300	500							
Excavators	1,200	800	1,000	900							
Tractors, etc.	1,100	900	900	1,100							
Compressors	1,000	1,000	1,000	900							
Independent Compressor Tools	300	200	200	300							
Water Pumps	300	200	100	100	100	100					
Rollers (Petrol and Diesel)	1,300	1,100	1,000	1,000	900	800					
Rollers (Steam)	—	1,000	1,400	1,300	1,400	1,100	1,100	800	900	600	1,100

TABLE V
AVERAGE ANNUAL WORKING TIME (HOURS)

Type of Plant	*Local Authority*	*Contractor*
Mixers	500	600
Mortar Mills	—	1,200
Mobile Cranes	800	1,000
Dumpers and Powered Barrows	800	1,300
Excavators	1,100	1,400
Tractors and Shovels	1,100	1,300
Compressors	1,000	1,100
Independent Compressor Tools	300	200
Water Pumps	200	500
Rollers (Petrol and Diesel)	1,200	1,100
Rollers (Steam)	1,200	—

TABLE VI
CONTRACTORS' ANNUAL USAGE TIMES (HOURS)

Type of Plant	*Working Time*	*Site Time*
Mixers	600	1,500
Mortar Mills	1,200	1,700
Mobile Cranes	1,000	1,500
Dumpers and Powered Barrows	1,300	1,600
Excavators	1,400	1,800
Tractors and Shovels	1,300	1,700
Compressors	1,100	1,600
Independent Compressor Tools	200	700
Water Pumps	500	1,100
Rollers (Petrol and Diesel)	1,100	1,600

TABLE VII
INSURANCE RATES FOR MECHANICAL PLANT

Type of Plant	*Fire, Theft, Extraneous and other Damage; Third Party Road and Site Risks*
Mixers and Mortar Mills	*Rate per cent. of the Price when new*
Mixers	1.00
Mortar Mills	1.00
Material Hoisting Plant	
Cranes: Mobile	1.00
Derrick and Rail Mounted (Steam)	1.20
Derrick and Rail Mounted (Other Fuels)	0.85
Hoists, Conveyors, Elevators and Winches	1.00
Material Moving Plant	
Dumpers and Powered Barrows	1.40
Locomotives	1.20
Levelling and Digging Plant	
Excavators (with one attachment)	1.00
Tractors (all types):	1.10
Shovels and Loaders	1.25
Trenchers	0.90
Powered Tools	
Hammers	1.00
Sawbenches	1.00
Compressor Equipment	
Compressors	1.40
Independent Compressor Tools	1.40
Pumps	
Concrete Pumps	1.00
Water Pumps	1.00
Rollers	
Petrol and Diesel	0.40
Steam	1.50

venience have been expressed in the form of percentages of the cost of plant when new. These percentage rates are given in Table VII.

Normal Third Party Risks and Common Law Workman's Compensation are usually covered by general policies effected for the contract as a whole and these usually cover the use of the normal types of small plant. The premiums for these risks in respect of the plant department staff have been included in the overheads.

The Annual Costs.—The annual costs to be covered are the costs of replacement, interest, maintenance, licences and insurance, and administration, that is, the total costs of owning and managing the plant pool. These various costs have been built up earlier in the paper in terms of percentages of the price of the machines when new and the total annual costs can now be estimated from them. For example, the annual cost for a mobile diesel crane is 23 per cent. of its purchase price when new, made up as :

Replacement cost when rate of interest is 5 per cent. (from Table III)	3.45
Interest on loan at 5 per cent.	5.00
Net maintenance cost (from Table II) ...	8.00
Maintenance overheads (40 per cent. of net maintenance cost)	3.20
Licence and insurance (from Table VII) ...	1.00
	20.65
Administrative overheads (10 per cent.) ...	2.07
	22.72

say, 23 per cent.

The estimated annual costs, built up in this way for the various items of plant are given in Table VIII. In order to make the table of estimates more comprehensive, figures have been included, on the basis of analogy with other types, in one or two cases for which basic data were not available.

Any contingency allowance thought necessary can readily be added to these figures. It might be thought advisable, for instance, to add an allowance to cover exceptionally bad experience in operating the fleet. Some managements favour this practice as they consider that expenditure frequently exceeding revenue has a detrimental effect on the general running of the plant department.

The various factors entering into the annual costs have, of necessity, been estimated on the basis of the costs of plant working at current average rates although these usage rates were substantially higher for some types of plant than others. No evidence is available as to how costs vary with changes in usage rates. The consensus of opinion of the engineers interviewed was that plant deteriorated as much or more when not in use as when working. It is probably reasonable to assume that the figures given are applicable over the range of usage which is of practical importance. They would probably not apply to plant used only very rarely, or plant used for exceptional periods, as for example on double shift-working.

It did not appear from the data that the maintenance costs varied very much from one undertaking to another except in the few cases where very special conditions obtained. Nevertheless, it is likely that the machines will be subject to greater wear in some cases than in others and it is unlikely that the average maintenance costs are applicable to plant working largely, for instance, on open-cast coal extraction, or in gravel or sand pits or in quarries.

Future Application

The figures given above of annual costs are, of course, based on past experience and it is necessary to consider how far these figures can be used as a measure of future costs. The main changes likely to cause plant costs to differ from those given above are: changes in price levels; changes in the ages up to which it is considered worthwhile to keep plant; and obsolescence.

Changes in the levels of prices do not create any particular difficulty. The annual

TABLE VIII
ANNUAL COSTS AS A PERCENTAGE OF CURRENT NEW PRICE*

Type of Plant	*Petrol*	*Diesel*	*Electric*	*Steam*
Mixers and Mortar Mills				
Mixers: Local Authorities	22	20	20	—
Contractors	31	30	28	—
Mortar Mills	38	35	33	—
Material Hoisting Plant				
Cranes: Mobile	26	23	—	—
Derrick	—	—	14	14
Rail Mounted (including Tower type)	—	—	14	14
Hoists, Conveyors, Elevators and Winches	23	22	20	—
Material Moving Plant				
Dumpers and Powered Barrows:				
Local Authorities	20	17	—	—
Contractors	32	29	—	—
Levelling and Digging Plant				
Excavators	—	24	—	—
Tractors: Local Authorities	26	24	—	—
Contractors	37	35	—	—
Shovels and Loaders:				
Local Authorities	28	26	—	—
Contractors	39	37	—	—
Trenchers	28	26	—	—
Powered Tools				
Hammers	—	—	36	—
Sawbenches	28	—	17	—
Hand Saws	—	—	36	—
Compressor Equipment				
Compressors	27	23	20	—
Independent Compressor Tools	22	—	—	—
Pumps				
Concrete Pumps	—	25	25	—
Water Pumps: Local Authorities	21	—	—	—
Contractors	38	38	37	—
Rollers	19	18	—	15

* Assuming interest at 5 per cent. The figures do not include cost of day-to-day maintenance, haulage, operatives or consumable stores.

costs have been estimated as percentages of the prices when new and so can be applied equally readily to any set of prices. It is reasonable to assume that the costs of maintenance move roughly in step with the costs of new plant. The application of the annual costs percentages given in Table VIII to current prices of new plant will automatically adjust for both rising machine prices and maintenance costs, thus ensuring that the purchasing power available for both maintenance and replacement is always sufficient at the current level of prices. The reserve will, in effect, partly offset the capital borrowed to finance the purchase of the plant, and no special adjustments for interest and capital depreciation in the reserve are necessary.

It is doubtful whether a large increase in the supply of new plant to the home market would be followed by a wholesale clearance of the older plant, and by a change to a policy of scrapping plant at the end of the periods that are often advocated for depreciation purposes. And there is some doubt whether a policy of scrapping plant after a few years of life would be economic. The replacement factor (assuming 5 per cent. interest for plant with a 20-year life is 2.8 per cent., for 15 years 4.4 per cent., for 10 years 7.6 per cent., and for five years 17.2 per cent. The maintenance data suggest that the maintenance costs would not fall sufficiently to offset the rise in replacement costs, although this does not mean that the ages to which plant were observed to be kept were the optimum ones. The new investment allowance introduced in April, 1954, does, of course, give some added incentive to a more rapid turnover of plant but for most contractors (local authorities unaffected by tax changes) the incentive is only marginal. For tax purposes money spent on repairs is treated differently from money spent on purchasing plant but at current levels of taxation and allowances the result is not very different, unless the depreciation allowances are much above or below about 12.5 per cent. Most contractors' plant is depreciated for tax purposes at rates varying from 10 to 20 per cent. per annum. Where tax is paid at the standard rate there is, for example, a saving in favour of money spent on purchasing plant rather than repairing old plant of about 2 per cent., in the case of plant with a basic allowance of 15 per cent.

In the past, and under present conditions, obsolescence appears to be of little importance; any obsolescence that occurred over the period surveyed, 1950-53, is, of course, reflected in the costs given and there would appear to be no reason to expect any considerable increase in the amount of obsolescence in the future. Any obsolescence anticipated can be covered by the addition of a contingency allowance, but it would not appear that this need be very substantial. For instance, a contingency allowance of about 1.5 per cent. would cover the loss that would result if a new type of mixer, with operating costs 4 per cent. less than those of mixers bought at the present time, came into general use in five years' time.

ACKNOWLEDGEMENTS

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REBUILT BEAUVAIS

Franco-British Society's Visit

By B. S. TOWNROE, HonARIBA

(Secretary General, Franco-British Society)

MEMBERS of the Franco-British Society, of which Lord Harvey of Tasburgh is the new chairman, are visiting Beauvais at the end of May in order to study the reconstruction of the town, and visit other projects of interest in the district.

Beauvais is the capital of the Department of the Oise, and the whole of the centre of the town was completely destroyed by bombs in 1940. Since the end of the war this town has resembled an immense workshop, but at last there are many signs of its renaissance.

The first task was to prepare a modern plan, to include the cathedral, the bishop's palace, and such ancient buildings as survived the bombardments. Fortunately, a well-known French townplanner, M. Georges Noel, drew up an excellent plan, and many of his ideas have now been translated from paper to bricks and stone.

Some 1,400 dwellings have already been built; 550 are in course of construction, and just under 200 remain to be built, but even so, many of the inhabitants will still be without a permanent home. About 700 temporary dwellings continue to provide shelter for more than 1,000 families. It will be necessary, therefore, to build outside the original boundary of the town. As far as possible new schools and other public buildings are being placed in open country where there is ample room for playgrounds and open spaces.

One of the questions on which there has been much controversy is that of the return to Beauvais of the factory in which the Gobelins tapestries were manufactured. This is a nationalised industry started by Golbert in 1664. After the bombardments of 1940 the factory was removed to a safer centre. It is definitely decided, however, to start rebuilding the factory next year, and M. Noel has been chosen as the architect. The new building, which will be close to the cathedral, will combine a factory, a cultural centre with exhibits of tapestry, and the county museum.

" How to Insulate Buildings "

The Structural Insulation Association has published the ninth edition of " How to Insulate Buildings." The pamphlet is in two sections, and deals with insulation first under the headings of houses with pitched roofs, flat roofs (timber), flat roofs (concrete), external walls, ventilated ground floors, and windows. There is a useful chart in the centre of the pamphlet dealing with thermal insulating materials for buildings. The second section is devoted to industrial and public buildings. The pamphlet can be obtained from the Association at 32, Queen Anne-street, Cavendish-square, London, W1.

HOUSING IN CHILE

Policy of Public Action

HOW housing is being carried out in Latin-America in general and Chile in particular was described at the Housing Centre on April 24 by MR. RENE URBINA, architect of the Ministry of Public Works, and of the Housing Institute of the University of Chile. Mr. Urbina is at present travelling around Britain as a British Council scholar.

Overcrowding and lack of sanitation were the two chief problems to be overcome in providing housing in Latin-America, said Mr. Urbina. In 1951 the population of the Latin-American countries was 160m., housed in some 16m. normal dwellings and an unknown number of sub-standard dwellings. It had been estimated that altogether there was a lack of 12m. dwellings of adequate standards.

In Chile, there were two chief economic factors operating against housing. One was the low national income *per capita* and the second was the uneven distribution of the national income.

In ten years recently, said Mr. Urbina, only 18,000 houses had been built in Chile under the auspices of the Government. This was only 10 per cent. of the number of houses required to house the annual natural increase in population.

Chile was one of the Latin-American countries which were making an effort to deal with housing needs through public action. This work was started only 15 years ago, and in 1946 was created the Chilean Housing Corporation, which was provided with all the legal, financial and technical powers which the Government thought necessary for the provision of public housing. The work of the Corporation covered the whole country in theory, although in practice at the moment it was limited to the urban areas. Local authorities had no housing responsibilities and were restricted to the control of certain building work.

In the last year the Chilean Housing Corporation had changed its traditional approach to the housing problem in that it was facing and considering new methods of balancing the rents of the dwellings with the incomes of the people with the greatest need, including prefabrication.

Another type of public housing in operation in Chile, said Mr. Urbina, was that carried out by the social security agencies which had been formed for different sections of workers. There were 30 or 40 of these, but only three or four carried out a substantial housing programme. Some had done an important proportion of the building work in Chile. The technical standard of the housing done by these bodies was higher than that of the Chilean Housing Corporation, especially in the amount of floor space and equipment provided, but the rents were much higher. In this type of housing flats up to ten storeys had been built in recent years.

Mr. Urbina spoke of the proposal to set up a Latin-American Housing Bank. This would be of great assistance to housing throughout the continent. It would be financed by private capital.

The technical standards of building in Latin-America, Mr. Urbina thought, were not fundamentally different from those in Britain, either in construction or planning.

INQUIRY BUREAU

Contractual Procedure

Q.—In a civil engineering contract for the construction of a sewer the contract documents are: a bill of quantities; a specification; drawings; and the 1953 edition of the "General Conditions of Contract and Form of Tender, Agreement and Bond" of the Institution of Civil Engineers and Federation of Civil Engineering Contractors. In the bill of quantities an item is included for six-inch concrete surround to the sewer pipes, and the contractor inserted a rate against this item. The specification states that concrete surround is to be provided to certain depths of sewer, and the drawing shows concrete surround to certain lengths of sewer.

On the work being carried out it was found that the quantity of concrete surround in the bill of quantities was underbilled and that the concrete surround shown on the drawings was understated. In the settlement of the final account the actual length of concrete surround provided by the contractor, in accordance with the specification, was certified for payment.

The internal auditor has now disallowed this item on the grounds that the provision of concrete surround is included for in the item of the bill which reads: "Supplying X-in. diameter concrete pipes and laying and jointing as specified in trench."

Is there any justification for the attitude of the auditor which I might have overlooked? L. G. (E).

A.—The contract documents comprised the General Conditions, specification, drawings, priced bills, schedule of rates and prices (if any), tender and the contract agreement —see General Conditions, clause 1(f). In this case there appears to have been a discrepancy between the specification on the one hand and the bills and the drawings on the other. Where this happens, clause 6 provides that the engineer is to issue instructions to the contractor as to the manner in which the work is to be carried out. Clause 6 adds that "if in the opinion of the engineer compliance with any such instructions shall involve the contractor in any expense which by reason of any such ambiguity or discrepancy the contractor did not and had reason not to anticipate, the engineer shall certify and the employer shall pay such additional sum as may be reasonable to cover such expense."

I am not clear whether in this case the engineer gave the contractor instructions under clause 6 or whether the contractor carried out the work of his own accord. I do not think, however, that this matters, since the engineer has now certified the work, and there appears to be nothing on the contract to make additional payment under clause 6 dependent on the engineer having given instructions before the work was carried out.

In these circumstances, I see no foundation for the attitude of the internal auditor, unless either:

(a) He is of opinion that the contractor should have seen the discrepancy and the likelihood of additional expense at the time he tendered; or

(b) He is of opinion that clause 52(4) applies to the circumstances which have arisen, and the contractors did not in fact claim the additional payment at the time mentioned in clause 52(4).

As to this latter point, I think it can very well be argued that clause 52(4) does not apply to the situation which has arisen. Clause 52(4) forms part of two main clauses headed "Alterations, Additions and Omissions"; they relate to variations of the contract works. Clause 6, however, deals with the problem of defining the actual scope of the contract works, which is a rather different matter.

In either event, I do not think that the internal auditor can simply disallow the item. The engineer has certified the item, and the local authority as employer must accept that decision, unless they invoke clause 66, with a view to arbitration. In any such arbitration, the onus of proof would be on the local authority, and I must add that I cannot imagine that the arbitrator would see any merit in their claim.

Payment Dispute over a Private House

Q.—My house was purchased from a builder without a "building contract." He reassured me verbally before purchase that he would rectify any small defects that arose in the first six months such as ceiling cracks. It appears that he does not intend to fulfil his promises, and I am left with large ceiling cracks, a leaking garage roof and badly smoking chimneys, all of which occurred within the first six months.

I have recently received, however, an account from him covering additional items of work, performed before I took possession, that were not included in the agreed purchase sum that was dealt with *via* our solicitors. Under normal circumstances, I would be prepared to pay the builder this further sum, as I feel that we had a "gentleman's agreement" that I would pay it, but since he has completely ignored my requests to honour our agreement to rectify the small defects that have occurred, I am most reluctant to pay his bill unconditionally.

What is the legal aspect if he attempted to prosecute for my failure to pay the sum owing, whilst he consistently fails to "play the white man" on this other matter? A.B.

A.—A legal correspondent writes: I think that A.B.'s rights in this matter depend on whether (a) the house had been completed before the purchase, or (b) he bought the bare land, the builder undertaking to erect thereon a house in accordance with certain plans and specifications.

In case (a), A.B. may be confronted with some difficulty. The transaction was the purchase of an interest in land (including the building already on it), which by virtue of Section 40 of the Law of Property Act, 1925, should be evidenced in writing. Unfortunately, there appears to be no written evidence of the builder's undertaking to make good the defects. This difficulty would not necessarily be fatal. If the builder were to admit in writing that he had given the undertaking, that would suffice for the purposes of Section 40. In any event, the absence of writing does not invalidate the contract; it would be for the builder to plead Section 40 in court proceedings.

Further, even if the builder did plead Section 40, Mr. A. B. might be able to show that the builder's undertaking was a collateral agreement on the strength of which he had entered into the purchase of the land; in that event, the court might award damages in respect of the builder's failure to carry out the undertaking.

In case (b), I think that A.B. need not rely on the undertaking at all; insofar as it is evident that the defects are due to faulty materials or workmanship, he could sue for damages for breach of the original contract to build the house. In that event, the builder might argue that the undertaking limited his liability to defects which appeared within the first six months, whereas in the absence of the undertaking there would have been no such limitation. If A.B. is minded to take action, he would be wise to get an architect or surveyor to survey the premises and make a report on the defects now.

With regard to the extras, A.B. apparently ordered these by oral contract; since contracts for this type of work do not need to be in writing, he would appear to be liable. A. E. T.

Mortar Flaking and Powdery Bricks

Q.—I occupy a detached house that was erected in 1937. The house is brick-built at the base approximately 2 ft. from the ground, and the bricks were covered with mortar. This mortar has cracked and flaked off. I have had it re-done, but it still does not last, and now I notice that the bricks in places have become powdery. Can you suggest a cause for this, and a remedy. AJAX.

A.—All bricks made from clay contain a certain amount of soluble salts, and in moderation they will only cause at the most a white deposit to appear on the surface of the brick wall, which in course of time would disappear completely. If, however, these salts are in excess they might well cause serious trouble.

In this particular case, it would appear that the bricks used for the lower two feet of the house contain a fairly high percentage of salts, and in all probability magnesium sulphate. It is also possible that the earth in contact with the building contains salts which by capillarity is finding its way into the brickwork. Since these salts are soluble it will be appreciated that any moisture finding its way into the body of the brickwork would result in these salts becoming dissolved and in subsequent drying out appear as crystals on the surface of the brickwork. Such crystallisation behind the rendering can quite easily push the rendering off as in fact it has done in this case.

This being the case, it will be readily understood that moisture is getting into the brickwork of the house. Since it is the lower portion which is being affected then I am of the opinion that the damp-proof course is at fault, and until this is attended to the trouble will continue.

Assuming it is possible to locate the source of dampness, then the following procedure should be adopted.

Strip the remainder of the renderings, leaving the brickwork exposed. Leave the brickwork so exposed for six months. At the end of this period thoroughly brush off all the while deposit that may appear (it is

advisable not to use water for this purpose since there is a possibility of driving the salts back into the brickwork). Cut out any odd bricks that appear to be powdery and replace with new. Then allow the brickwork to remain exposed for a further three months and remove any further deposit of salts which, if the repairs to the damp-proof course have been effective, should be very little.

The whole of the area can then be rendered as before and should not give rise to any further trouble.

As an additional precaution, the soil around the house should be removed. It would be an advantage if a cement apron about one to six feet wide could be laid to form a dry area about the property.

H. O. D.

Ancillary Items in a Bill of Quantities

Q.—In a Bill of Quantities the ancillary terms to a main item have not been priced, but marked included, for example mitres and return moulded ends, to hardwood skirtings. The work was varied by instruction, and on remeasurement resulted in practically the same quantity of skirting, but a greatly increased number of ancillary items. The clause in the contract covering pricing of variations is a standard one stating that they shall be priced at the rates in Bill of Quantities for similar work, or where the rates do not apply the value shall be based upon rates deduced therefrom, etc.

Should in this case the work be deemed to be similar and priced at the rates in the Bill of Quantities, or because of the increased number of ancillary items should the rate for the main item be increased?

A. W. R.

A.—A legal correspondent writes: The first question to ask is whether, in fact, the work as varied was similar to the work described in the Bills of Quantities. It would seem, from the information, that the work was not similar, and in that case the rates in the Bills do not apply. The next question is whether it is practicable to price the varied work on the basis of rates deduced therefrom. If so, then the work should be priced on that basis, but if not the work in question must be entirely re-priced.

A. E. T.

Plumbers and BSI Codes of Practice

Q.—I have recently fitted a new domestic boiler of the thermostatically controlled type in place of an older pattern. This is served by the existing flue. Due to the slow rate of combustion and consequent condensation of gases in the cold flue the latter fills with smoke, which leaks into the house by way of defective joints.

Subsequent research showed that it is at least a risky proposition to fit a boiler of such high efficiency to an existing outside flue unless the latter is exceptionally well constructed and has sufficient insulation to retain the small amount of heat available inside the flue.

The plumber engaged to supply and fit the boiler was initially asked for his advice concerning the appliance. He gave it a very high recommendation, and added that he had fitted a number of them. He has now stated, after the trouble and after my subsequent research, that he had no knowledge of the existence of the BSI Code of Practice No. C.P.131.101(1951), which deals with the problem, and he obviously lacks the specialist experience which is evidently required for the work.

Can you tell me whether the contractor can be held liable for any or all of the necessary reconstruction and repair, and can payment of his account be withheld until this is effected? I would add that all negotiations with the contractor were conducted verbally.

J. A. D.

A.—A legal correspondent writes: The essential question in this case is whether the plumber was negligent in not advising that the use of this type of boiler would be likely to cause damage to the flue and walls. If the plumber ought to have known of the risks involved then he was negligent in not advising accordingly. In my opinion, a court of law would probably conclude that a man holding himself out as a plumbing contractor should be familiar with the Codes of Practice issued by the BSI, and with similar technical literature.

A. E. T.

Falling Plaster

Q.—We have been experimenting a certain amount of trouble with plaster falling from ceilings. On investigation we discovered that the plasterers were applying two coats of plaster to the plaster boards, and then applying a finishing coat of special plaster. Is this good practice and if so are there any special points which require particular attention during the process?

C. P.

A.—The problem of plaster falling from ceilings of plasterboard base should not occur if the plasterboards are plastered in the manner as laid down by the manufacturers.

The correct procedure for plasterboard ceiling is that when the boards are fixed the joints should be stopped in with retarded hemihydrate plaster and the joints when set covered with 4 in. jute scrim. If the boards are to be covered in a two-coat operation the first coat should be of retarded hemihydrate plaster and sand in the proportion of one part plaster to one and a half parts of clean sharp sand. Finishing coat in neat retarded hemihydrate plaster.

Where one coat plastering only is used the boards should be jointed and covered with scrim as above and then the retarded hemihydrate applied to the boards with the trowel. A good thickness should be applied and when "picking up" laid in with the rule and closed in with a wood float. The trowelling up should not be commenced until the whole surface is firm. In trowelling use as little water as possible, or there may be a tendency to "kill" the plaster. The finish should be a smooth but not polished surface.

H. O. D.

Foundry Work Scholarship

The Council of Ironfoundry Association's Training and Education Committee has informed the Birmingham University authorities of their intention to establish, in the autumn of 1956, a research scholarship in a branch of foundry work in the Department of Industrial Metallurgy. The JIC has agreed to make a grant of £300 per annum for four years for this purpose.

AUBTW

Resolutions at the Annual Conference

RESOLUTIONS under nearly 40 different headings have been submitted for discussion at the 29th annual delegate conference of the Amalgamated Union of Building Trade Workers, which is to be held at the Corn Exchange, Leicester, from May 28 to June 1.

The first group of resolutions (numbering 23) deal with wages and the cost of living, but it is noticeable that only two of them suggest that to stabilise the cost of living might be better than demanding more money. One branch (Airdrie) thinks that wage claims "should be tabled at least twice a year"; other demands are for another 6d. or 1s. an hour (Musselburgh), and for the incorporation of the increases gained under the cost-of-living index in the basic rate.

Eight resolutions are submitted on grading, and there is a practically unanimous demand for one grade throughout the country; Harlow states flatly that this should be at London and Liverpool rates.

Some 40 resolutions have been tabled on Guaranteed Time—National Working Rules 2A and 2B. There is a widespread demand for a 44-hour working week and for an amendment of the rules to provide for a week's notice instead of two hours on a Friday.

The nine resolutions on bonus payments are not unanimous in their aims. Leeds, for example, wants to see the abolition of all forms of bonus and an increase in the rate per hour, but Glasgow would like to see a "national target for bonus in order that there may be a common yardstick for fixing bonus schemes. . . ."

Holidays with pay produce about 40 resolutions, but these seem mostly to be concerned with minor grievances. Under the heading of working hours a strong demand is made for a 40-hour week with, of course, no reduction in pay.

"Housing and the Tory Government" is another prolific source of complaint, which draws nearly 40 resolutions. Demands are made for the lowering of the bank rate, the restoration of housing subsidies and the overthrow of the Government and its replacement by a Socialist administration.

FIXED PRICE TENDERING

Civil Engineering Comments

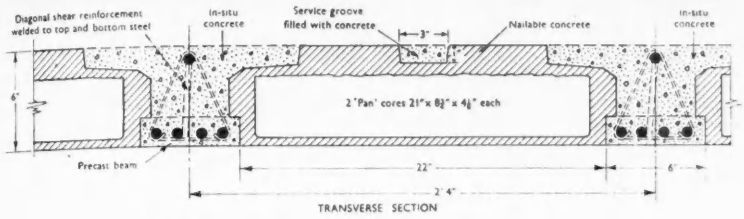
MR. A. M. HOLBEIN, president of the Federation of Civil Engineering Contractors, commenting on the announcement by the Minister of Works that the Government proposed in future to invite fixed-price tenders for selected contracts up to a value of £100,000, said:

"The civil engineering contracting industry has always been a highly competitive one and we are willing to help in any way we can. At the same time our ability to tender fixed prices must always depend to a large extent on the nationalised industries and materials supply industries being able to hold their prices."

PERSONAL COLUMN

MR. T. MCMILLAN, MInstCE, joint assistant managing director of Tarmac, Ltd., has been elected chairman of the council of the Federation of Civil Engineering Contractors.

The Builder Review of PLANT & MATERIALS



The "Sindall Floor" (See "Concrete Flooring").

Concrete Flooring

A SYSTEM of composite reinforced concrete floors in widespread use which can be adapted easily to irregular shapes is made by William Sindall, Ltd., Gloucester-street, Cambridge. Called the "Sindall Floor," it can also be used in roofing where a flat roof is required. An advantage of the system is that it can be laid by unskilled labour, and no special lifting equipment is necessary. The floor can receive any finish and electric light fittings and other services can easily be installed. The floor is made of concrete composite T-beams with hollow concrete infiller blocks spanning between them. The depth can be varied from 6 in. upwards. The flooring has been tested by the Building Research Station.

New Brochure

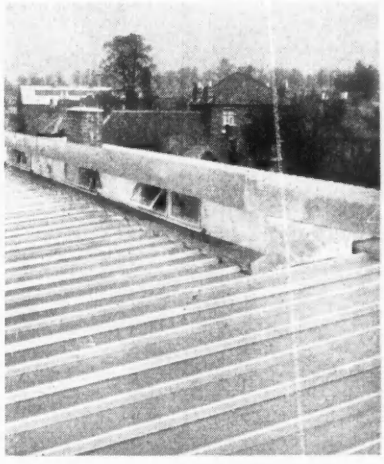
A well illustrated 24-page brochure entitled "Ruberoid Products" has been published by the Ruberoid Co., Ltd. The contents include the comparative weights of Ruberoid roofings, a brief description of the company's main products and their suggested uses, and sections devoted to laying Ruberoid on roofs of wood and concrete. Copies from the company at 1-19, New Oxford-street, WC1.

Portal Frames

Brochure No. 9/1955, entitled "Welded Details for Single-Storey Portal Frames," published by the British Constructional Steelwork Association, gives constructional details of these frames under nominally static loading conditions, with rocker type or fixed type bases. Examples of various details are presented so that a detail can be readily chosen and adapted to suit the particular problem, being based on British Standards 449/1948 and 1856/1952. Copies of the brochure, price 2/6, from the Association at 94, Petty France, SW1.

Information Sheet

A new information sheet (IV:5) has been issued by Stramit Boards, Ltd., which deals with the use of their slabs as permanent shuttering for *in situ* concrete. It shows how thermal insulation, reduction in the transmission of impact sound, fire protection to the concrete and the provision of a permanent finish are all provided in one application. It can be obtained from the firm at Packet Boat Dock, Cowley Peachey, Nr. Uxbridge, Middlesex.



Roofs of a block of council houses at Andover, Hampshire, have been clad with the new Noral "Snaprib" aluminium sheeting made by the Northern Aluminium Co., Ltd., Banbury, Oxfordshire. A feature of the work is that no holes or fastenings are exposed to the weather and the sheets form a continuous leakproof metal cladding. The fastening is done by clipping the sheets to the purlins and snapping them together along the side laps, making drilling and accurate locating unnecessary. Glass fibre is laid between the sheeting and the purlins, beneath which aluminium backed plaster board is used, the combination providing effective insulation.

TRADE NEWS

Circular Saw Attachment

A NEW 6-in. portable circular saw attachment, the "Nu-rip" has been introduced by S. N. Bridges and Co., Ltd., Parsons Green-lane, London, SW6, as an accessory to their Toolpower range. Of sturdy die-cast alloy construction, the 6-in. saw is understood to be capable of ripping or cross-cutting timber 1½ in. thick. It has a rise and fall table for depth of cut with an adjustable rip fence which can be used on either side of the machine. The retractable saw guard automatically covers the blade when the cut is completed.

New Company

The "Steelbrac" steel partitioning and steel equipment division of Steelbracketing and Lathing, Ltd., Willow-lane, Mitcham, Surrey, is to be formed into a separate company to be known as "Steelbrac," Ltd., which will operate from the same address.

Change of Address

Lloyd and Cross, Ltd., and Modern Homes (Wirral), Ltd., have moved from their address at Birkenhead to Port Causeway, Bromborough, Cheshire.

Veneer to "Asbestolux"

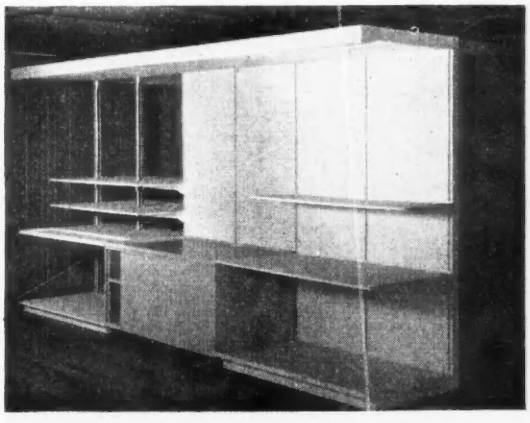
The Cape Asbestos Co., Ltd., 114-116, Park-street, London, W1, inform us that the anodised aluminium-silicon alloy mentioned in *The Builder* of May 4 is available as a veneer to their special-grade "Asbestolux" panels.

Steel-framed Buildings

A 24-page brochure has been produced by the Coseley Engineering Co., Ltd., Dock Meadow-drive, Lanesfield, Wolverhampton, showing the range and uses of "Coseley" steel-framed buildings. The London associated company of the firm has moved to 41-46, Piccadilly, W1.

Paint Marketing

"Pompeian," a product of the Lewis Berger Paint Group, is now to be marketed only by Sir W. A. Rose and Co., Ltd., Shepherds-lane, London, E9, a member of the group. Available in a range of 34 attractive colours, and based on a modern improved formulation, "Pompeian" will not be sold retail, but only to the trade or municipalities, etc.



A system of shopfitting known as "Vizusell," which has had success in the USA and Canada, is being introduced into this country by Versatile Fittings (WHS), Ltd., 55, Fetter-lane, London, EC4. Basically "Vizusell" is a system of vertical metal channels to which shelf brackets and other fittings can be quickly and securely locked in place at any height by the turn of a screw. The system has been designed for bulk display without lessening in any way the standard of display. It can also be modified and adapted to suit various lines of merchandise.

The Builder

CURRENT PRICES OF MATERIALS

THE information given on these pages has been specially compiled for *The Builder* and is copyright. It is the intention that the details given should indicate fair average prices of materials, not necessarily the highest or the lowest. The prices apply to large quantities of materials loaded at works, delivered at London Stations or at site in London Area as stated. Prices for smaller quantities ex merchant's warehouse will necessarily be higher so as to include the stocking and handling costs involved. Due to the exceptional circumstances now prevailing it is recommended that the prices of materials should be confirmed by inquiry from suppliers and merchants.

AGGREGATES AND SAND

Delivered site in full lorry loads. Average of prices for Boroughs of Westminster, Paddington, Holborn and St. Pancras.

		£	s.	d.
Pit Ballast	per yd.	1	6	0
Pit Sand	,,	1	3	5
Washed Sand	,,	1	6	7
¾ in. Shingle	,,	1	2	11
¾ in. Broken Brick	,,	1	0	6
Pan Breeze	,,		10	9
Fine or Coarse Foamed Slag Aggregate ... ... 2 yds. of fine and 2.6 yds. of coarse per ton.	per ton	3	0	9

CEMENT, etc.

Including non-returnable jute sacks or paper bags.

		£	s.	d.
Best British Portland Cement. Standard Specification delivered Charing Cross area.				
6-ton loads and upwards, site	per ton	5	1	6
1 to 6 tons, site	,,	5	13	6
Rapid Hardening Cement in 6-ton loads and upwards to site	,,	5	12	0
1 to 6 tons do. site	,,	6	4	0
Aquacrete Water Repellent Cement. 32s. 6d. per ton on ordinary cement prices.				
Red, Buff or Khaki Colorcrete in 6-ton lots ...	,,	7	18	0
Other colours according to colour.				
In 4-ton lots from 295s. 0d. to 685s. 0d. per ton.				
White Portland Cement	,,	13	2	0
Under 1 ton	per cwt.		15	7
417 Cement (Ultra Rapid Hardening) in 6-ton lots and upwards	per ton	6	14	0
Super Cement (Waterproof), 32s. 6d. per ton above Portland Cement.				
Cullamix Tyrolean Finish, £11 5s. 0d. to £14 0s. 0d. (1-ton loads and upwards).				
Lightning and Ciment Fondu Brands High Aluminous cement, 6-ton lots and up	,,	14	8	3
Stourbridge Fireclay, 6-ton loads at Railway Depot, London	,,	6	12	9
Moler Mortar Powder for Flue Bricks (London sites)	per cwt.	1	10	0

BRICKS

		£	s.	d.
Full Loads.				
First Hard Stocks	per 1,000	11	17	0
Second Hard Stocks	,,	10	16	0
Mild Stocks (Kiln Burnt)	,,	9	1	6
Mild Stocks	,,	8	16	6
All loaded free into lorry at the works. The question of haulage is still very difficult and prices must be obtained from job to job.				
2½ in. Nominal Fletton Bricks to sites in W.C. District Commons	,,	5	13	0
Cellular do.	,,	5	13	0
Keyed do.	,,	5	15	0
Rustics	,,	6	18	0
Cellular Rustics	,,	6	18	0
Single Bullnose Commons	,,	6	13	0
Sandfaced	,,	7	13	0
Tuscans	,,	8	8	0
Saxons	,,	8	16	0
Golden Buffs	,,	9	3	0
Best Blue Pressed Staffs (London Stations) ...	,,	27	5	6
Do. Bullnose (London Stations)	,,	27	19	6
Blue Wire Cuts (London Stations)	,,	24	14	0
Midhurst Lime Bricks (London sites)	,,	10	8	0
Uxbridge Whites (London sites)	,,	9	17	0
Special Purpose Sandlime Bricks (London sites) ...	,,	7	14	0
2½ in. Best Stourbridge Fire Bricks (London stations)	,,	27	16	3
3 in. do. (London stations)	,,	33	8	0
2½ in. Moler Flue Bricks (London sites)	,,	36	0	0
2½ in. Machine-made Sandfaced Red Facings (London sites)	,,	14	8	6
2½ in. Machine-made Multi Red Facings (London sites)	,,	14	13	6
2½ in. Hand-made Sandfaced Red Facings (London sites)	,,	15	6	0
2½ in. Hand-made Sandfaced Multi-Colour Facings (London sites)	,,	16	1	0
Hand-made Sandfaced Cherry Red Facings. Berkshire district (London sites)	per 1,000	17	11	3
Hand-made Sandfaced Multi-Colour Facings. Berkshire district (London sites)	,,	17	6	3
Rubber Bricks for gauged arches (London sites) ...	,,	41	10	0
2⅜ in. Surrey Clamp Burnt Multi Stock Facings (London sites)	,,	13	6	0
2⅜ in. Surrey Kiln Burnt Multi Stock Facings (London sites)	,,	14	18	0
Glazed Bricks (London sites), White, Ivory, Brown—				
Stretchers	,,	64	0	0
Headers	,,	63	0	0
Quoins, Bullnose and 4½ in. Flats	,,	80	0	0
Double Stretchers	,,	85	0	0
Double Headers	,,	77	10	0
One side and two ends	,,	87	0	0
Two sides and one end	,,	89	10	0
Splays and Squints	,,	83	0	0
Cream and Buff £3 extra over White. Other colours, hard glaze, £8 10s. 0d. extra over White. All above prices plus 17½% for Best quality and plus 17½% less 10% for Second quality.				

PARTITION SLABS, etc.

Delivered Central London Area. (W.C. District).

	Minimum lorry loads.				
Hollow Clay Partition Blocks (Keyed)					
*2 in.	140 yds.	per yd. sup.	4	4	
*2½ in.	140 yds.	,,	4	7	
*3 in. (3 cavity) ...	120 yds.	,,	5	4	
Building Blocks (Keyed)					
*3 in. (6 cavity) ...	110 yds.	,,	5	6	
*4 in. (6 cavity) ...	95 yds.	,,	6	9	
6 in. (8½ in. × 5⅝ in.)...	1,250 blocks	per 1,000	26	6	0
* Half blocks at no extra charge.					
Clinker Concrete					
2 in.	100 yds.	per yd. sup	3	9	
2½ in.	85 yds.	,,	4	4	
3 in.	75 yds.	,,	5	3	
4 in.	55 yds.	,,	6	5	
Cranham					
2 in.	... ...	,,	6	8	
2½ in.	... ...	,,	7	4	
3 in.	... ...	,,	8	7	
4 in.	... ...	,,	10	7	
4½ in. Load bearing quality ...	... ...	,,	11	8	
Moler Partition Blocks					
2 in.	150 yds.	,,	15	6	
2½ in.	120 yds.	,,	15	9	
3 in.	100 yds.	,,	16	0	
4 in.	90 yds.	,,	19	0	
Lightweight Concrete Building and Partition Blocks of Various Sources of Manufacture					
2 in.	100 yds.	,,	5	9	
2½ in.	80 yds.	,,	6	11	
3 in.	65 yds.	,,	8	1	
4 in.	50 yds.	,,	9	6	
4½ in.	44 yds.	,,	10	2	
6 in.	33 yds.	,,	13	8	
Thermalite-Ytong Partition Blocks					
2½ in.	120 yds.	,,	6	11	
Thermalite-Ytong Loadbearing Insulating Blocks					
3 in.	100 yds.	,,	8	3½	
4 in.	75 yds.	,,	10	9	
5 in.	60 yds.	,,	13	5	
6 in.	50 yds.	,,	16	1½	
8½ in.	35 yds.	,,	1	3	0½
Floor Blocks and Filler Tiles					
3 in. Floor Blocks 12 in. by 12 in. delivered in full lorry-loads	... ...	per 1,000	33	6	0
4 in. do.	... ...	,,	35	14	0
5 in. do.	... ...	,,	42	10	0
6 in. do.	... ...	,,	47	17	0
7 in. do.	... ...	,,	58	8	0
8 in. do.	... ...	,,	68	9	0
10″ × 3″ × ⅝″ Filler Tiles in multiples of 10 tiles per 1,000 multiples			56	15	0
12″ × 3″ × ⅝″ do.	do.	,,	,,	64	10	0
10″ × 4″ × ⅞″ do.	do.	,,	,,	71	0	0

STONEWARE DRAIN PIPES, etc.

The following are the percentages to be added to the Standard List prices delivered London Area.

Delivered ex Merchants Wharf or Depot or Manufacturers Works.

	Over 2 tons	Over 100 pieces Under 2 tons	Under 100 pieces Under 2 tons
Best Quality ...	+85%	+117½%	+130%
BSS Best do. ...	+10% +85%	+10% +117½%	+10% +130%
Tested Quality	+37½% +85%	+37½% +117½%	+37½% +130%
BSS Tested do.	+47½% +85%	+47½% +117½%	+47½% +130%

STONEWARE DRAIN PIPES, etc.—*continued*

		£	s.	d.
3 in.	Land Drain Pipes (in 12 in. lengths) ... per 1,000	11	0	6
4 in.	do. ... ... ,,	14	9	6
6 in.	do. ... ... ,,	29	19	0
9 in.	do. ... ... ,,	57	5	0

DAMP COURSE

Hessian base bitumen 7 lb. per yd. sup. in 24 ft. rolls cut to wall widths in lots of £6 value and over delivered London area ... ... per yd. sup.			3	3½
Asbestos base ditto 7 lb. per yd. sup. do. do.	,,		5	2
Lead lined bitumen ditto 9½ lb. per yd. sup. do.	,,		12	2
18 in. × 9 in. British damp course slates ... ... per 1,000		41	12	8
14 in. × 9 in. do. do. ... ... ,,		32	0	0
9 in. × 9 in. do. do. ... ... ,,		18	2	6
18 in. × 4½ in. do. do. ... ... ,,		19	2	6
14 in. × 4½ in. do. do. ... ... ,,		15	4	9
9 in. × 4½ in. do. do. ... ... ,,		10	5	3

STONE

Bath Stone—				
Monks Park ... ... per ft. cube		8		1½
St. Aldhelm Box Ground ... ... ,,		9		1½
Delivered in railway trucks at South Lambeth B.R. Western Region.				
Doulting Stone Random Blocks. Delivered London area ,,		8		11
Beer Stone. Delivered London area ... ... ,,		8		5
Portland Stone—				
Brown Whitbed in random blocks, 20 ft. average delivered in railway trucks at Nine Elms, B.R. Southern Region ... ... ,,		8		5
Yorkshire Stone—Blue Robin Hood Quality. Delivered to site London in 6-ton lots.				
9 in. × 3 in. Rubbed, weathered, throated and stooled cills ... ... per ft. cube		3	17	9
12 in. × 6 in. do. do. ... ... ,,		2	15	6
12 in. × 3 in. Plain coping, twice throated ... ,,		2	3	0
12 in. × 3 in. Weathered and twice throated coping ,,		2	17	3
14 in. × 6 in. do. do. ... ... ,,		2	11	9
4½ in. × 9 in. Plinth, rubbed on top and face ... ,,		2	6	3
3 in. sawn two sides Slabs, random sizes ... ... per ft. sup.			8	3
Templates and Cover Stones, 3 in., 4 in. and 6 in. thick, edges coped for rendered brickwork ... per ft. cube		1	8	3
Do. do. fair one edge for fair faced brickwork ... ... ,,		1	13	6
Hard York—				
12 in. × 2 in. Square Steps, rubbed on top and edge per ft. run			10	0
14 in. × 3 in. Round-nosed Steps, rubbed on top and front ... ... per ft. cube		2	12	9
12 in. × 6 in. Plain Steps, rubbed top and front ... ,,		2	6	3
2 in. Rubbed and Jointed Paving, given sizes ... per ft. sup.			9	4
2 in. Sawn Paving, edges squared, in random sizes per yd. sup.		3	5	3

TILES AND PANTILES

Delivered London area by road in 6 tons or over per 1,000			
Machine-made Pantiles and French pattern Tiles from Lincolnshire district	29	8	0
Hand-made Pantiles Berkshire district	50	9	0
Hand-made Double Roman Bridgwater district	58	13	6
Hand-made 10½ × 6½ tiles Berkshire district	14	1	6
Machine-made 10½ × 6½ Staffordshire district	13	18	9
Hand-made Hip and Valley tiles per doz.	1	10	0
Machine-made Hip and Valley tiles do.	1	8	0
Concrete tiles 10½ × 6½	8	1	6
do. Interlocking (49S)	19	0	0

NOTE.—Breakage in transit, purchasers' responsibility.

SLATES

First-quality Slates from Penrhyn or Portmadoc, carriage paid in full truck loads to London Rate Station. Per 1,000 actual.			
24 × 12	137	2	4
22 × 12	111	8	0
22 × 11	100	14	1
20 × 12	94	9	10
20 × 10	90	8	6
18 × 10	62	17	0
18 × 9	55	1	6
16 × 10	49	10	0
16 × 8	38	15	3

NOTE.—Breakage in transit, purchasers' responsibility.

TIMBER

Softwood—				
Joinery quality ... ... Ex. Wharf per standard		£115 to £140		
Carcassing quality ... ... do. ,,		£100 to £105		
1 in. Tongued and Grooved Flooring do. ,,		£110	0	0
Hardwood—				
Mahogany—African S.E. ... do. per ft. cube		1	10	0
do. Honduras do. ... do. ,,		3	5	0
Oak European do. ... do. ,,		2	5	0
do. Japanese do. ... do. ,,		2	10	0
do. English Logs sawn ... do. ,,		1	17	6
Teak 8 in. average S.E. ... do. ,,		3	17	6
Walnut African Logs sawn ... do. ,,		1	5	0

DOORS (in Lots 1-11)

Delivered London area.	£	s.	d.
1½ in. 4 Horizontal Panel. Pattern 4 in. deal			
2ft. 0 in. × 6 ft. 6 in. ... ... each	1	12	0
2 ft. 3 in. × 6 ft. 6 in. ... ... ,,	1	13	0
2 ft. 6 in. × 6 ft. 6 in. ... ... ,,	1	14	0
2 ft. 9 in. × 6 ft. 6 in. ... ... ,,	1	16	6
2 in. do. but top panel open. Pattern 4 × G in deal			
2 ft. 6 in. × 6 ft. 6 in. ... ... ,,	2	9	0
2 ft. 9 in. × 6 ft. 6 in. ... ... ,,	2	11	6
2 in. Panel, top panel open. Pattern 2 × G in deal			
2 ft. 6 in. × 6 ft. 6 in. ... ... ,,	2	1	9
2 ft. 9 in. × 6 ft. 6 in. ... ... ,,	2	3	6

SUNDRIES

Delivered London area.			
1 in. Wood Wool Slabs, 6 ft. 0 in. × 2 ft. 0 in. in quantities of 1 ton (89 yds. to 1 ton) ... ... per yd.		5	8
1½ in. do. (67 yds. to 1 ton) ... ... ,,		7	4
2 in. do. (52 yds. to 1 ton) ... ... ,,		8	11½
2½ in. do. (45 yds. to 1 ton) ... ... ,,		10	3
3 in. do. (39 yds. to 1 ton) ... ... ,,		11	5½
Quantities under 1 ton add 1d. per ½ in. of thickness.			
½ in. imported insulation Board, quantities over 5,000 sq. ft. per 100 sq. ft.	2	2	6
⅛ in. Hardboard do. ... ... ,,	2	1	6
5/32 in. do. do. ... ... ,,	3	2	6
7/32 in. Asbestos Flat Building Sheets ... ... per yd. sup.		3	8
¼ in. do. ... ... ,,		4	10
Roofing Felt, 1-ply ... ... ,,		1	7
do. 2-ply ... ... ,,		2	0
Best Scotch Glue in slabs ... ... per ½ cwt.	5	0	0
do. pearl ... ... ,,	5	5	0
Croid Glue ... ... 28 lb.	2	6	0
Cut Nails 3 in. (1-ton lots) ... ... per ton	66	10	0
do. 4 in. and up (1-ton lots) ... ... ,,	63	0	0
Wire Nails, 3 in. (4-cwt. lots) ... ... per cwt.	3	0	9
do. 4 in. and up (4-cwt. lots) ... ... ,,	3	0	3

METALS

STEEL JOISTS, ETC.

Basis Joists—			
6 in. × 5 in., 8 in. × 5 in., 8 in. × 6 in., 10 in. × 6 in. 12 in. × 6 in. plain cut to lengths delivered London area ... ... per ton	44	5	0
Extra for sizes			
3 in. × 1½ in. 4 in. × 1¾ in. ... ... ,,	3	10	0
3 in. × 3 in. ... ... ,,	2	10	9
4 in. × 3 in. 10 in. × 4½ in. ... ... ,,	1	10	0
5 in. × 2½ in. 5 in. × 3 in. ... ... ,,	1	15	0
4¾ in. × 1¾ in. ... ... ,,	3	5	0
5 in. × 4½ in. 7 in. × 3½ in. 13 in. × 5 in. ,,		15	0
6 in. × 3 in. 24 in. × 7½ in. ... ... ,,	2	0	0
6 in. × 4½ in. 7 in. × 4 in. 8 in. × 4 in. 9 in. × 4 in. 10 in. × 5 in. ... ... ,,	1	5	0
12 in. × 5 in. 22 in. × 7 in. ... ... ,,	1	0	0
9 in. × 7 in. 10 in. × 8 in. 12 in. × 8 in. 14 in. × 5½ in. 14 in. × 6 in. 14 in. × 8 in. 15 in. × 5 in. 15 in. × 6 in. 16 in. × 6 in. 16 in. × 8 in. 18 in. × 7 in. 18 in. × 8 in. 20 in. × 6½ in. 20 in. × 7½ in. ,,		10	0
Steel angles average price ... ... ,,	46	5	0
Steel tees average price ... ... ,,	47	5	0
Fabricated work delivered London—			
R.S. Joists cut and fitted ... ... ,,	61	7	6
Compound girders ... ... ,,	67	10	0
Stanchions ... ... ,,	72	17	6
Compound stanchions ... ... ,,	77	5	0
In Roof Work—Trusses and Purlins ... ... ,,	90	10	0
Average prices not for awkward work.			
Angle cleats and ⅝ in., ¾ in. and ⅞ in. bolts average price London area ... ... per cwt.	5	3	0

FERRO-CONCRETE BARS

Mild Steel Ferro-Concrete bars British manufacture to BSS785 ex London Stock ⅝ in. diam., and upwards ... ... ,,	44	10	6
¼ in. diam. ... ...per ton extra	8	12	0
5/16 in. do. ... ... ,,	6	12	0
⅜ in. do. ... ... ,,	4	12	0
½ in. do. ... ... ,,	3	2	0

MILD STEEL TUBES

Tubes to BSS1387 and Fittings. List prices and following discounts :

Galvanised Tube—	W.I. Fittings.	Malleable Fittings
Class A + 11¼ %		
Class B + 22½ %	Light + 38¾ %	Malleable List — 28¾ % + 40 %
Class C + 40½ %	Heavy + 46¼ %	
Black—		
Class A — 11¼ %		
Class B + ¾ %	Light + 55¾ %	Malleable List—28¾ %
Class C + 15 %	Heavy + 33 %	

C.I. HALF-ROUND GUTTERS

Delivered London per yd. in 6-ft. lengths

	Gutters	Nozzles	Stop Ends
3 in.	3/7½	3/3	/11
3½ in.	4/1½	3/6	/11
4 in.	5/1	3/11	1/5
4½ in.	5/7	4/5	1/8
5 in.	6/3	4/9	1/11

METALS—*continued*

C.I.O.G. Gutters

	Gutters	Nozzle	Stop Ends
3 in.	4/8	4/3	1/1
3½ in.	5/2½	4/3	1/5
4 in.	5/9½	4/5	1/8
4½ in.	6/3	5/1	1/11
5 in.	6/10	5/9	2/2

C.I. Rain-water Pipes

Per yd. in 6-ft. lengths	Pipe	Bends	Branches
2 in.	7/9	3/11	5/8
2½ in.	7/9	4/5	7/7
3 in.	8/8½	5/6	8/3
3½ in.	9/11	6/6	9/11
4 in.	11/5½	7/11	11/9

L.C.C. Coated Soil Pipes

2 in.	8/9½	6/10	8/3
2½ in.	9/3	7/6	10/3
3 in.	10/5	8/3	12/2
3½ in.	11/7½	10/3	14/3
4 in.	13/3	11/6	16/9

Above prices for gutters, rain-water and soil pipes for under 5 cwt. lots only. Lots over 5 cwt. see List No. 3300 dated February 1, 1955, plus 12½% and tonnage allowance. 4-ton lots 5 per cent., 2-ton lots 2½ per cent.

L.C.C. Coated Drain Pipes

In 9-fts.

	cwt.	qr.	lb.	per yd.	Bends	Branches
4 in.	1	1	17	30/6	21/3	37/6
6 in.	2	0	1	45/–	56/6	90/9

Asbestos Rain-water Pipes and Fittings

All less 17½ per cent. discount.

		2 in.	2½ in.	3 in.	4 in.
Pipes 6-ft. lengths	...per yd.	3/11½	4/3	5/1½	6/9½
Shoes	each	2/7	2/10	3/4	4/6
Single Branches	„	4/–	4/9	5/8	7/11
Bends square or obtuse	„	2/10	3/1	4/–	5/8
Swan Necks 4½ in. proj.	„	3/1	4/–	4/6	6/3
do. 6 in. do.	„	3/4	4/–	5/1	6/9

Asbestos O.G. Gutters and Fittings

		4 in.	4½ in.	5 in.	6 in.
Gutters 6 ft. lengths	...per yd.	3/8½	4/2	4/11½	5/11½
Drop ends	each	3/–	3/6	4/1	4/10
Stop ends	„	–/11	1/–	1/1	1/3
Angles	„	3/1	3/7	4/4	5/1
Nozzles	„	3/–	3/6	4/1	4/10
Union Clips	„	1/6	1/9	2/2	2/6

Asbestos Half-Round Gutters and Fittings

		3 in.	4 in.	4½ in.	5 in.	6 in.
Gutters 6 ft. lengths	per yd.	2/7½	3/1½	3/2½	3/9½	5/3½
Drop ends	each	2/2	2/7	2/10	3/1	4/6
Stop ends	„	–/10	/11	1/–	1/1	1/3
Angles		2/6	2/10	3/1	3/4	4/6
Nozzles	„	2/2	2/7	2/10	3/1	4/6
Union Clips	„	1/1	1/2	1/3	1/5	2/1

	Per ton basis in London £ s. d.
Iron—Staffordshire Crown Merchant Quality	43 12 6
Mild Steel Bars	46 18 0
Mild Steel Hoops	42 17 6

	Ex Merchant's Stock per ton Two-ton lots £ s. d.
Soft Sheets C.R. and C.A.—	
20 gauge	56 2 6
24 gauge	58 12 6
26 gauge	61 12 6
Galvanised Corrugated sheets 6 ft. to 9 ft.—	
20 gauge	64 7 0
24 gauge	67 17 0
26 gauge	73 2 0
Galvanised flat sheets C.R. and C.A.—	
20 gauge	65 7 0
24 gauge	68 17 0
26 gauge	74 12 0

ALUMINIUM AND ALUMINIUM ALLOYS

(Base prices)		£ s. d.
Sheet BS 1470 SIC 18 SWG (36 in. wide)	per lb.	2 9½
Sheet BS 1470 NS3 Utility 18 SWG (36 in. wide)	„	2 7
Coiled strip BS 1470 S1C 18 SWG (24 in. wide)	„	2 8½
Coiled strip BS 1470 NS 3 Utility 18 SWG (24 in. wide)	„	2 6½
Coiled strip for flashing 99.7% purity 22 SWG (12 in. wide)	„	2 11
Corrugated sheet BS 1470 NS 3 Utility Circular Profile 8 ft. × 32 in. × 20 SWG	per sheet	1 11 0
Corrugated sheet BS 1470 NS 3 Utility Industrial Profile 8 ft. × 31½ in. × 20 SWG	„	1 16 9
Corrugated sheet BS 1470 NS 3 Utility Mansard Profile 8 ft. × 31½ in. × 20 SWG	„	1 10 2
Extruded section BS 1476 E1C simple moulding	per lb.	2 7½
Extruded section BS 1476 E1C 1 in. diam. round	„	2 5
Extruded section BS 1476 HE1WP simple angle	„	2 10½
Extruded section BS 1476 HE10WP 1 in. diam. round	„	2 9½
Tubing BS 1471 T1C 1½ in. O/D × 20 SWG	„	4 2½
Tubing BS 1471 HT10WP 1½ in. O/D × 20 SWG	„	5 5½

PLUMBERS' BRASS WORK, etc.

Delivered in London area.

All per doz.	M.O.H. ⅜ in.	½ in.	1 in.	1¼ in.	1½ in.	2 in.
Screwdown bib cocks Crutch head for iron	87/–	128/8				
Toilet bib cocks for iron	109/–	158/5				
Screwdown stop cocks for iron	66/–	95/9	188/–	363/–	522/6	917/6
do. with two unions for lead	89/–	132/–	234/4	472/–	623/6	1389/6
Double nut boiler screws	18/8	26/5	47/6	48/6	67/–	93/6
Heavy Croydon ball valves	77/–	193/6	312/5	568/8	734/10	—
Plumbers' union brass lead to iron	19/6	23/6	38/6	52/10	70/6	165/–
	1¼ in.	1½ in.	2 in.	3 in.	3½ in.	4 in.
Caps and screws	33/–	40/8	59/6	92/5	118/10	155/3
Brass sleeves		31/11	31/11	56/2	74/10	91/5
	1½ × 6 lb.		1½ × 6 lb.	2 × 7 lb.	3 × 7 lb.	
Lead P. trap with brass cleaning screws	70/9		88/6	141/7	241/11	
Lead S. trap do.	85/6		106/3	174/–	312/8	

Solder		s. d.
Plumbers'	per lb.	4 1
Tinmen's	„	4 11
Blow pipe	„	5 0

Copper Tubes and Sheets

Copper tubes BSS 659/1944 on the basic price of 39¾d. per lb. plus gauge and manufacturing extras as follows. Minimum quantities, 3 cwt.

	Extra d.		d.		d.
⅛ in. × 19 gauge	13½	Total per lb.	53½	approx. per ft.	14½
¼ in. × 19 „	11⅞	„ „	51⅝	„ „	20
1 in. × 18 „	10⅜	„ „	50⅛	„ „	31
1¼ in. × 18 „	9⅜	„ „	49⅛	„ „	37½
1½ in. × 18 „	9¾	„ „	49½	„ „	45
2 in. × 17 „	11⅜	„ „	51⅛	„ „	71½

		£ s. d.
Rolled Copper sheets up to 48 in. wide, basic price plus gauge and manufacturing extras	per ton	456 5 0

Zinc

		£ s. d.
Sheet Zinc 10 gauge (25 SWG)	5 cwt. lots upwards per cwt.	8 10 9
do. 12 gauge (23 SWG)	„ „	8 8 3
do. 14 gauge (21 SWG)	„ „	8 7 0

Brass Tubes

		£ s. d.
Brass tubes basic price, plus gauge and manufacturing extras	per lb.	2 7⅞

LEAD SHEET AND PIPES

Basis selling price in minimum one-ton delivery to one address in London or Home Counties.

		£ s. d.
Lead Sheet, English, 3½ lb. substance and upwards	per ton	149 15 0
Lead Water Pipe in coils	„	151 0 0
Lead Soil Pipe 10 ft. or over 2 in. to 4 in. dia.	„	152 10 0
„ over 4 in. dia.	„	154 10 0
Lead Gas or Untinned Compo pipe	„	152 10 0
Extras over Basis for quantities under 1 ton		
5 cwt. and under 1 ton	per cwt.	2 0
3 cwt. do. 5 cwt.	„	4 0
1 cwt. do. 3 cwt.	„	6 0

Smaller quantities than 1 cwt. priced specially.

Supplying sheet lead and lead pipe to less than basis weights and cutting to sizes less than basis charged extra according to current trade schedule.

Allowance for Old Lead, collected £100 0s. 0d. per ton weighed at buyer's works.

PLASTER, etc.

		£ s. d.
Coarse Pink in 1-ton loads and over Delivered on Site	per ton	7 11 9
do. White do. do.	„	7 19 6
Sirapite Coarse do. do.	„	7 14 0
do. Fine do. do.	„	8 2 0
Blue Lias Lime in 6-ton loads	„	6 14 6
Hydrated Lime do.	„	5 17 6
Lump Lime do.	„	5 7 0
White Keen's or Parian Cement in 1-ton loads	„	10 17 0
Pink Keen's or Parian Cement in 1-ton loads	„	10 11 9
Granite Chips in 6-ton loads	„	2 9 4
Hair	per cwt.	4 17 6
Gypsum Plaster Lath or Base Board ⅜ in. thick 600 yds. and over in one delivery. Delivered site	per yd.	2 3½
1,200 yds.	„	2 2½
Do. Insulating do. ⅜ in. thick 600 yds. and over in one delivery. Delivered site	„	2 11½
1,200 yds.	„	2 10½
Gypsum Plaster Wall Boards, 3 and 4 ft. wide, 6 to 12 ft., ⅜ in. thick, 600 yds. and over in one delivery. Delivered site	„	2 6½
1,200 yds.	„	2 5½
Do. Insulating do. ⅜ in. thick 600 yds. and over in one delivery. Delivered site	„	3 2½
1,200 yds.	„	3 1½

PAINT AND DISTEMPER

	£ s. d.
Delivered London area	
Ceiling Distemper ... ... per cwt.	1 7 6
Washable Distemper ... ... ,,	5 5 0
Gloss Paint ... ... per gal.	2 10 0
Snowcem cement paint (in 1 cwt. drums) ... ... per cwt.	3 11 0
LEAD PRODUCTS AND OILS	
Ground White Lead, 1 cwt. kegs ... ... per cwt.	9 18 0
Genuine White Lead Paint, 1-19gal. lots in 1 gal. tins per gal.	3 12 0
Genuine Red Lead, Dry, 1 cwt. keg ... ... per cwt.	7 7 6
Genuine Linseed Oil Putty, 1 cwt. keg ... ... ,,	2 18 0
Size XD quality, 28 lb. ... ... per tin	9 0
Raw Linseed Oil (5 gal.) drums extra ... ... per gal.	17 3
Boiled Linseed Oil (5 gal.) do. ... ... ,,	17 9
SUNDRIES.	
Turpentine substitute (5 gal.) drums extra ... ... ,,	5 6½
do. do. (40 gal.) do. do. ... ,,	4 8½
Solignum, Brown (5 gal. cans) Exterior ... ... ,,	7 4
Creosote (40 gal. barrels) ... ... ,,	2 0
Paste Powder (1 lb. packets) ... ... per lb.	2 0
White Lining Paper ... ... per piece	1 1

VARNISHES, etc.

Delivered London area	
Oak Varnish, Outside or Inside ... ... per gal.	1 18 0
Oak Pale Copal do. ... ... ,,	1 18 0
Hard Drying Oak for Inside ... ... ,,	2 1 0
Crystal Paper Varnish do. ... ... ,,	2 4 0
Eggshell Flat Varnish do. ... ... ,,	2 6 0
Finest Carriage Varnish ... ... ,,	2 5 0
Front Door Varnish ... ... ,,	2 1 0
Japan Gold Size ... ... ,,	1 14 0
Black Japan ... ... ,,	1 15 0
Brunswick Black ... ... ,,	1 10 0
Berlin Black ... ... ,,	1 7 6
Terebene ... ... ,,	1 13 0
Knotting (1 gal. bottles free)... ... ... ,,	2 7 0
French and Brush Polish (do.) ... ... ,,	2 0 0

GLASS

	per ft. super s. d.
Delivered London area	
18 oz. Sheet Glass Ordinary Glazing Quality. Cut Sizes	6½
24 oz. ,, ,, ,, ,, ,, ,,	8¾
26 oz. ,, ,, ,, ,, ,, ,,	11
32 oz. ,, ,, ,, ,, ,, ,,	1 2½
⅛ in. Rolled Plate	10
¼ in. and ¼ in. Rough Cast	1 1

	Per ft. super s. d.
⅛ in. Figured Rolled and Cathedral, Standard patterns:	
White	10
do. Standard Tints	1 5½
do. Special Tints	2 11½
⅛ in. Pinstripe, Hammerstripe, Reeded, Reedlyte and Luminating	1 2
¼ in. Wired Cast	1 3½
¼ in. Georgian Wired Cast	1 3½
Hollow Glass Blocks—	Each
P.B.2. 5⅜ × 5⅜ × 3⅞ in.	2 11
P.B.3 7⅛ × 7⅛ × 3⅞ in.	4 5
P.B.32 7⅛ × 7⅛ × 3⅛ in.	4 5
Radiused Corner Blocks to match up with—	
P.B.2	5 6
P.B.3	7 0
P.B.32	7 0
¼ in. Polished Plate Glass, G.G. Quality—	Per ft. super
In plates not exceeding 2 ft. sup.	3 7
,, ,, ,, 5 ft. sup.	4 5
,, ,, ,, 45 ft. sup.	5 1
,, ,, ,, 100 ft. sup.	5 6
¼ in. Polished Plate, extra sizes, *i.e.*, plates exceeding 100 ft. sup. or 160 in. one way or 96 in. both ways. G.G. quality —Not exceeding 135 ft. sup. or 250 in. one way or 135 in. both ways	8 4
Not exceeding 180 ft. sup. or ditto	11 3
Not exceeding 200 ft. sup. or ditto	16 0
Plates exceeding 200 ft. sup. prices on application.	
Substances other than ¼ in. Polished Plate at Special Prices.	

Quantity Tariff—Sheet and Sundry Glass.

The following prices apply to minimum quantities of one size and one pattern delivered by the manufacturer to one site at one time.

Description of Glass	Minimum quantity	Per ft. sup. s. d.
18 oz. sheet O.Q.	3,000	4⅞
24 oz. ,, ,, ...	2,000	6½
26 oz. ,, ,, ...	2,000	8⅛
32 oz. ,, ,, ...	2,000	11¼
⅛ in. Rolled Plate	1,000	8
⅛ in. Figured Rolled and Cathedral Standard Patterns, White	1,000	8
⅛ in. Pinstripe, Hammerstripe, Reeded, Luminating and Spotlyte...	1,000	11
7/32 in. and ¼ in. Rolled Plate or Rough Cast ...	2,000	11
¼ in. Wired Cast, Hexagonal...	2,000	1 0½
¼ in. Georgian Wired Cast	2,000	1 1

The Builder

CURRENT RATES OF WAGES

AS FROM APRIL 16, 1956. (Every endeavour is made to ensure accuracy but we cannot be responsible for errors.)

KEY TO SCHEDULE OF GRADE RATES.

Grade Classification.	A	A1	A2
Craftsmen	4/3½	4/3	4/2½
Labourers	3/9	3/8½	3/8

Town.	*Grade.*
Aberavon	A
Aberdare	A
Abergavenny	A
Abingdon	A2
Accrington	A
Addlestone	A
Afan Valley	A
Aldeburgh	A1
Aldershot District	A1
Alfreton UD	A
Alnwick UD	A
Altrincham	A
Amble	A
Ambleside	A2
Amersham	A1
Ammanford	A
Andover	A2
Anglesey, Isle of	A2
Ardingly	A2
Arundel	A2
Ascot	A2
Ashbourne RD	A2
Ashbourne UD	A2
Ashby-de-la-Zouch UD	A
Ashby Woulds UD	A
Ashford (Kent)	A2
Ashford (Middlesex)	A
Ashington UD	A
Ashtead	A
Ashton-under-Lyne	A
Aspatria and Brayton	A2
Atherstone RD	A
Attleborough	A2
Axminster	A2
Aylesbury	A2
Aylesham	A2
Bagshot	A2
Bakewell UD	A2
Banbury	A1
Bangor	A2
Barnard Castle UD	A
Barnoldswick UD	A
Barnsley CB	A
Barnstaple	A2
Barrow-in-Furness	A
Barrow-upon-Soar RD (exc. Thrussington A2)	A
Barry	A
Basford RD (exc. Willough-by-on-the-Wolds A1)	A
Basingstoke	A1
Bath	A
Batley MB	A
Baxterley	A1
Beaconsfield District	A
Bearl	A
Beccles	A2
Bedale RD	A
Bedford	A
Bedlington	A
Bedlingtonshire UD	A
Bedwas	A
Beeston & Stapleford UD	A
Belper UD	A
Belton	A
Berkhamsted	A
Berrington	A1
Berwick Borough	A
Beverley MB	A
Bewdley MB	A
Bexhill-on-Sea	A2
Bideford	A2
Biggleswade	A2
Billericay	A
Billing	A
Billingham UD	A
Bilsthorpe	A
Bilston MB	A
Birchington	A2
Birkenhead	*
Birmingham CB	†A
Bishop Auckland UD	A
Bishop's Stortford	A
Bishops Castle MB	A2
Bispham	A
Blackburn	A
Blackpool	A
Blackwell RD	A
Blandford	A2
Blaydon UD	A
Blidworth	A
Blyth B.	A
Bodmin	A2
Bognor Regis	A2
Boldon UD	A
Bolsover UD	A
Bolton	A
Boston MB	A
Bourne End	A
Bournemouth District	A
Brackley MB	A2
Bracknell	A2
Bradford CB	A
Bradford-on-Avon	A2
Braintree	A1
Brandon & Byshottles UD	A
Brecon—Borough of	A1
Breconshire, County of	‡A2
Brent Knoll	A2
Brentwood	A
Bridgend	A
Bridlington MB	A
Bridlington RD	A1
Bridgnorth MB	A1
Bridgnorth RD	A2
Bridgwater	A1
Brierfield	A
Brighouse MB	A
Brighton & Hove	A
Bristol District	A
Broadstairs	A2
Bromsgrove UD	A
Broughton, Flint	A
Buckfastleigh	A2
Buckingham	A2
Buckley	A
Bungay	A2
Burnham-on-Crouch	A2
Burnham-on-Sea	A2
Burnley	A
Burton-on-Trent C.B.	A
Bury	A
Bury St. Edmunds	A1
Buxton	A
Byfleet	A1
Caernarvon	A2
Caernarvonshire, Cnty. of	‡A2
Calder Valley	A
Camberley District	A2
Cambridge	A
Cannock UD	A
Canterbury	A2
Cardiff	A
Cardiganshire, County of	‡A2
Carlisle	A

CURRENT RATES OF WAGES—Continued

Town.	Grade.
Carlton UD	A
Carmarthen—Borough of	A1
Carmarthenshire, Cnty of	‡A2
Carnforth	A
Castleford UD	A
Caterham	A
Chapel-en-le-Frith	A
Chard	A2
Charmy Down	A
Chatham District	A
Chatteris	A2
Cheadle (Staffs) RD	A
Chelmsford	A
Cheltenham	A
Chepstow	A1
Chertsey	A
Chester	A
Chester-le-Street UD	A
Chesterfield MB	A
Chesterfield RD	A
Chichester	A2
Chipping Norton	A2
Chipping Sodbury	A2
Chippenham (inc. Chippenham Within and Hardenhuish)	A2
Cirencester	A2
Chorley	A
Clacton	A1
Clay Cross UD	A
Cleethorpes MB	A
Clevedon	A1
Cleveleys	A
Clitheroe	A
Coalville UD	A
Cobham (Surrey)	A
Colchester	A
Colne	A
Colwyn Bay	A1
Congleton	A1
Consett UD	A
Conway	A1
Corby UD	A
Cornwall, County of	‡A2
Corsham District	A
Coventry CB	A
Cranbrook	A2
Cranleigh	A2
Cranwell Aerodrome Site	A1
Crawley	A1
Crewe	A
Crewkerne	A2
Cromer	A1
Crook and Willington UD	A
Crowborough	A2
Cuckfield	A2
Cwmbran	A
Dalton-in-Furness	A
Darlington CB	A
Dartmouth	A2
Darwen	A
Daventry MB	A2
Deal	A2
Denbigh Town	A2
Derby CB	A
Devizes	A2
Devon, County of	‡A2
Dewsbury CB	A
Didcot	A2
Diss	A2
Doncaster CB	A
Dorchester	A2
Dorking	A
Dorset, County of (excepting Poole, Swanage and Wimborne A1)	A2
Dover	A2
Dovercourt	A
Driffield UD	A1
Drigg & Carleton	A
Droitwich MB	A
Dudley CB	A
Dunstable	A
Durham B	A
Eastbourne	A
E. Glam. & Mon. Val.	A
East Grinstead District	A2
East Kesteven RD	A2
East Retford MB	A
Eastwood (Notts) UD	A
Ebbw Vale & District	A
Edenbridge	A2
Ely	A2
Epping	A
Evesham MB	A2
Exeter	A
Exmouth	A2
Fakenham	A2
Falmouth	A2
Fareham	A
Faversham	A2
Felixstowe	A1
Filey UD	A
Fleetwood	A
Flint MB	A
Folkestone	A2
Frinton	A1
Frome	A1
Gainsborough UD	A
Gateshead CB	A
Gillingham (Dorset)	A2
Gillingham (Kent)	A1
Glastonbury & Street	A2
Glossop	A
Gloucester	A
Gloucestershire, Cnty. of	‡A2
Godalming	A2
Goole, MB	A
Goole RD (part—Airmyn, Hook)	A
Gosport	A
Grantham MB	A
Gravesend	A
Grays Thurrock UD Area	A
Great Yarmouth	A
Grimsby CB	A
Grimsby RD (part)	A
Guildford District	A2
Halesowen MB	A
Halifax CB	A
Halstead	A2
Haresfield	A1
Harlow	A
Harpenden	A
Harrogate MB	A
Hartlepool B	A
Harwell	A2
Harwich	A
Haslemere	A2
Hastings	A2
Hatfield (Herts)	A
Havant	A
Haywards Heath	A2
Heanor UD	A
Hemel Hempstead	A
Henley-on-Thames	A2
Hereford	A2
Herefordshire, Cnty. of	‡A2
Herne Bay	A2
Hertford	A
Hexham RD	A
Hexham UD	A
Heysham	A
Heywood	A
Higham Ferrers MB	A
High Wycombe	A
Hinckley UD	A
Hitchin	A
Hoddesdon	A
Holywell	A
Horley	A2
Horncastle UD	A2
Horsham	A2
Horwich	A
Huddersfield CB	A
Hull	A
Hunstanton	A2
Huntingdon (Staffs)	A
Ilkeston MB	A
Ilkley UD	A
Ipswich	A
Isle of Sheppey	A2
Isle of Thanet	A2
Isle of Wight	A2
Ilfracombe	A2
Jarrow B	A
Keighley MB	A
Kendal	A
Kenilworth UD	A
Kettering MB	A
Keynsham	A
Kidderminster MB	A
Kingskerswell	A1
King's Lynn	A1
Kingsteignton	A1
Kirkham	A
Knaresborough UD	A
Knutsford	A
Lancaster	A
Leamington MB	A
Leatherhead	A
Leeds CB	A
Leek UD	A
Leicester CB	A
Leighton Buzzard	A1
Leiston	A2
Leominster	A2
Letchworth	A
Lewes	A2
Lichfield MB	A
Lincoln CB	A
Liskeard	A2
Littlehampton	A2
Liverpool	*
Llandudno	A1
Llanelly (incl. Llanelly RD)	A
Llanfairfechan	A2
Llangollen	A2
London	*
Long Eaton	A
Looe	A2
Loughborough MB	A
Louth MB	A1
Lowestoft	A
Loxton	A2
Ludlow MB	A2
Ludlow RD	A2
Luton	A
Lyme Regis	A2
Lyneham (Devon)	A2
Lytham	A
Macclesfield	A
Maidenhead	A
Maidstone	A
Maldon (Essex)	A1
Maltby UD	A
Malton UD	A2
Malvern UD	A1
Manchester	A
Manningtree	A1
Mansfield MB	A
March	A2
Margate	A2
Market Harborough RD	A1
Market Harborough UD	A
Market Rasen UD	A2
Martock	A2
Maryport	A
Matlock UD	A
Melksham	A2
Melton Mowbray UD	A1
Merionethshire	A2
Merthyr	A
Mexborough UD	A
Middlesbrough CB	A
Middleton	A
Middlewich	A
Mildenhall	A2
Milford Haven UD	A1
Minehead	A2
Monmouth—Borough of	A1
Monmouthshire	A1
Morecambe	A
Moreton Valence	A2
Morley	A
Morpeth B	A
Morpeth RD	A
Mundesley	A2
Nantwich	A
Neath & Valley	A
Nelson	A
Newark MB	A
Newbury	A2
Newcastle-on-Tyne CB	A
Newcastle-under-Lyme	A
New Forest District	A1
Newmarket	A1
Newport, Mon.	A
Newport Pagnell	A2
Newquay	A2
Newton Abbot	A1
Normanton UD	A
Northallerton District	A
Northallerton UD	A
Northampton CB	A
North Shields	A
North Walsham	A2
Northwich	A
Norton Radstock	A1
Norwich	A
Nottingham CB	A
Nuneaton MB	A
Oakham RD	A2
Oakham UD	A2
Okehampton	A2
Oldham	A
Ongar	A
Ormskirk	A
Ossett & Horbury	A
Oswestry	A2
Oundle UD	A2
Oxford	A
Oxted	A1
Padstow	A2
Paignton	A1
Par	A2
Pembrokeshire (except Milford Haven)	A2
Penmaenmawr	A2
Penrith UD	A1
Penzance	A2
Peterborough, Soke of (Eastern Regional portion)	A1
Petersfield	A2
Pickering	A2
Plymouth	A
Pontefract MB	A
Pontypool & District	A
Pontypridd District	A
Porthcawl	A
Portishead	A
Portland Bill	A1
Portsmouth	A
Port Talbot	A
Preston	A
Princetown	A2
Pudsey MB	A
Pulborough	A2
Radnorshire, County of	‡A2
Ramsgate	A2
Raunds UD	A
Rayleigh	A
Reading	A
Redcar B	A
Redditch UD	A
Redhill & Reigate	A
Rhondda Valley	A
Richmond B (Yorks)	A
Ripon MB	A2
Rochdale	A
Rochester	A1
Ross-on-Wye	A2
Rossendale Valley	A
Rotherham CB	A
Royston	A1
Rugby MB	A
Rugeley UD	A1
Rushden UD	A
Saffron Walden	A2
St. Albans	A
St. Austell	A2
St. Helens	A
St. Neots	A2
Salisbury City	A2
Salisbury Plain	A2
Sandy	A2
Sawbridgeworth	A
Saxmundham	A2
Scarborough MB	A
Scunthorpe MB	A
Seaford & Newhaven	A2
Selby UD	A
Sevenoaks	A
Shaftesbury	A2
Sheerness	A2
Sheffield MB	A
Shepton Mallet	A2
Sherborne	A2
Shipley	A
Shoeburyness	A
Shoreham	A
Shrewsbury MB	A
Sirhowy Valleys	A
Sittingbourne	A2
Skegness UD	A1
Skipton UD	A
Sleaford UD	A1
Slough, Windsor & Eton District	A
Smethwick CB	†A
Snettisham	A2
Solihull UD	A
Somerset, County of	‡A2
Southampton and Eastleigh	A
Southend-on-Sea Dist.	A
Southport	A
South Shields CB	A
Southwold	A2
Spalding UD	A1
Stafford MB	A
Staines	A
Stamford MB	A1
Stantonwick	A
Stevenage	A
Stockport	A
Stockton RD	A
Stockton-on-Tees B	A
Stoke-on-Trent CB	A
Stoke Orchard	A1
Stourbridge MB	A
Stourport UD	A
Stowmarket	A1
Stratford-on-Avon MB	A
Stroud (RD Area)	A1
Sunderland CB	A
Sunningdale	A1
Sutton Coldfield MB	A
Swadlincote UD	A
Swaffham	A2
Swanage District	A1
Swansea	A
Swindon District	A
Swinton UD	A
Tamworth MB	A
Taunton	A2
Tavistock	A2
Tenterden	A2
Teignmouth	A2
Tewkesbury	A1
Thames Haven	A
Thetford	A2
Thirsk RD	A
Thorpe Bay	A
Thurrock UDC Area	A
,, North of to Billericay	A
Tilbury	A
Todmorden MB	A
Tonbridge	A1
Torquay	A1
Totnes	A1
Tring	A2
Trowbridge	A2
Truro	A2
Tunbridge Wells	A1
Tynemouth CB	A
Ulverston	A
Uppingham (Salop)	A1
Uttoxeter RD	A2
Uttoxeter UD	A1
Wakefield CB	A
Wakefield RD	A
Wallsall CB	A
Wallsend B	A
Walsden	A
Walton-on-Naze	A1
Ware	A
Warminster	A2
Warrington	A
Warwick MB	A
Wednesbury MB	A
Wellingborough UD	A
Wellington UD	A
Wellington (Somerset)	A2
Wells (Norfolk)	A2
Wells (Somerset)	A2
Welwyn	A
Welwyn Gar. City	A
West Bromwich CB	A
Westbury	A2
Westcliff-on-Sea	A
Westerham	A1
West Hartlepool CB	A
Westmorland (except Kendal)	A2
Weston-super-Mare	A1
Weybridge	A
Weymouth (including Portland Bill, excluding Portland Stoneyards)	A1
Whitby UD	A1
Whitby RD	A1
Whitehaven	A
Whitley & Monkseaton UD	A
Whitstable and District	A2
Wickford	A
Widnes	A
Wigan	A
Wigton	A2
Wilmslow	A
Wilts. County of	‡A2
Wimborne	A1
Wincanton	A2
Winchester	A1
Windermere	A2
Wisbech	A2
Witham	A1
Withernsea UD	A
Woking	A1
Wokingham	A2
Wolverhampton CB	A
Wolverton District	A2
Woodbridge	A2
Woodhall Spa UD	A
Woodstock	A2
Worcester CB	A
Workington	‡A
Worksop MB	A
Worthing	A2
Wrexham (incl. Cefn)	A
Wroughton	A1
Wylam	A
Wymondham	A2
Yate	A2
Yeovil Borough	A1
York CB	A
Ystalyfera	A

For Birkenhead, Liverpool and London the rates are:—Craftsmen, 4s. 5d.; Labourers, 3s. 10½d. In the case of London the rate beyond the 12-mile radius is: Craftsmen, 4s. 4½d.; Labourers, 3s. 10d. †Plus 2d. per working day. ‡This is the County rate and applies except where higher grades are stated.

NOTE.—Carpenters and Joiners providing own tools when employed in establishments operating under the Supplementary Rules for Woodworking Factories and Shops, receive 2d. per day; when employed on other building industry work, 4d. per day.

WOMEN'S RATES.—In all districts throughout the country the rate of wages for women engaged in craft processes is 3s. 5d. per hour. Women engaged on work other than craft processes, 3s. 1d. per hour.

For Building Trade Wages in Scotland see page 616

FILMS ABOUT BUILDING

Further Critical Appraisals

THE following is a further list, prepared by the Scientific Film Association, 164, Shaftesbury-avenue, WC2, in a series of critical appraisals of building films. Additional lists will be published at intervals.

The letters (H) or (F) after the title of each film signify Hire Charge, or Free Loan; "16sd" indicates 16-mm. sound film; "16st" denotes 16-mm. silent film; "b&w" means black and white. Below the titles are given the names of the sponsor and producer.

PLANE TALK (F), 22 mins., 16sd., colour, Britain, 1955. (C. & J. Hampton, Ltd.) *Distributor*: Sound-Services, Ltd., 269, Kingston-rd., London, SW19.

Content: Brief historical review of development of metal planes during last 200 years. Modern range of metal planes; bench planes; special features of quality and adjustment. Planing technique; use with shooting board; sharpening plane irons and refitting in plane.

Appraisal: Admirable exposition of the subject. The use of a craftsman to demonstrate the tools and speak the commentary is excellent and gives the film a personal touch.

Recommended for: Builders, technical colleges, secondary technical schools, adult training.

Unsuitable for: General audiences and audiences with scientific interests.

WATER HEATING BY GAS (F), 15 mins., 16sd., b&w, Britain, 1954. (Gas Council.) *Distributor*: Gas Council, 1, Grosvenor-pl., London, SW1.

Content: Two kinds of instantaneous heater and two kinds of storage heater are briefly described and their principles of operation explained by animated diagrams.

Appraisal: Clear, straightforward review of the subject; its brevity sometimes leads to over-simplification. The importance of good ventilation is not mentioned.

Recommended for: Technical colleges, secondary technical schools.

Suitable for: Architects and builders, adult training, audiences with scientific interests, general audiences.

FURAL ROOFING (F), 25 mins., 16mm., st. b&w, Britain and Switzerland, 1954. (S. W. Ronald & Co. (London), Ltd.) *Distributor*: S. W. Ronald & Co. (London), Ltd., Bankchbrs., 329 High Holborn, London, WC1.

Content: Part 1 (10 mins.)—Description of Fural, an aluminium alloy roofing sheet. Transport to site and fixing on roof, showing lightness, ease of handling, and rapidity of fixing and removal. Fitting chimney flashings, ridge ventilators, valley gutters and snow spurs without penetration of the sheet. Ability to withstand foot traffic. Part 2 (15 mins.)—Examples of buildings roofed with Fural.

Appraisal: Straightforward description of the material and method of fixing, of interest to potential users. The excessive camera movement in Part 2 greatly detracts from its value.

Suitable for: Architects, builders, technical colleges, secondary technical schools.

Unsuitable for: Audiences with scientific interests, general audiences.

HOT MIX ASPHALTIC CONCRETE (F), 12 mins., 16sd., b&w, Britain. (Shell Petroleum Co.) *Distributor*: Shell Petroleum Co., Ltd., St. Helens-court, Great St. Helens, London, EC3.

Content: Preparation of asphaltic concrete and examples of its use in roadwork and airfield runways. Importance of correct mixing and application. Method of preparing anti-skid surfaces. Laying roads and runways by a Barber-Greene finisher.

Appraisal: An interesting and very instructive film, well produced and easy to follow.

Recommended for: Highway engineers, technical colleges.

Suitable for: Secondary technical schools.

Unsuitable for: Audiences with scientific interests, general audiences.

TIMBER FOR TOMORROW (F), 23 mins., 16sd., colour, Britain, 1954. (Hickson's Timber Impregnation Co., Ltd.) *Distributor*: Hickson's Timber Impregnation Co., Castleford, Yorks.

Content: Old wooden buildings; durability of wood when well maintained, but susceptibility to decay when wet (especially soft woods and sapwood). High proportion of sapwood in softwood sold today. Dry rot in three-year-old floor due to inadequate ventilation. Pressure impregnation with wood preservative; costs.

Appraisal: An interesting advertising film with some teaching value. The use of colour is helpful.

Recommended for: Architects, builders, property owners.

Suitable for: Technical colleges, secondary technical schools, audiences with scientific interests.

Unsuitable for: General audiences.

CONSTRUCTION AHEAD (F), 21 mins., 16sd., b&w, USA, 1948. *Distributor*: United States Information Service, 5, Grosvenor-sq., London, W1.

Content: The construction of a modern concrete road in USA. Clearing, grading, mixing and spreading concrete; surfacing; curing.

Appraisal: Straightforward description of American methods of road construction. Useful as an introduction to the subject or as a background film.

Recommended for: Technical colleges.

Suitable for: Architects and builders, secondary technical schools, audiences with scientific interests, general audiences.

GIVE US A RING (F), 24 mins., 16sd., b&w, Britain. (Brit. Electrical Development Association—Film Producers' Guild.) *Distributor*: Brit. Electrical Development Association, 2, Savoy-hill, WC2.

Content: Story of young couple planning home serves to illustrate need for ample plug points to supply the many domestic electrical appliances now available. Description of Ring Main system, enabling this need to be met at reasonable cost.

Appraisal: Useful for lay audiences, but of limited value for technical instruction.

Recommended for: General audiences.

Suitable for: Architects and builders, adult training, audiences with scientific interests.

Unsuitable for: Technical colleges, secondary technical schools.

COLT VENTILATORS—FIXING METHODS—WIND AND WATER TESTS (F), 25 mins., 16sd., b&w, Britain, 1955. (Colt Ventilation, Ltd.) *Distributor*: Colt Ventilation, Ltd., Surbiton, Surrey.

Content: Part 1 (18 mins.)—Fixing Colt ventilators to roofs and walls of factories. Lightness, ease of fixing and adaptability to any type of roof are demonstrated. Part 2 (8 mins.)—Testing by spraying with water to simulate heavy rain, showing that water does not get through the ventilators.

Appraisal: An interesting and informative advertising film; easy to follow.

Recommended for: Architects, builders and technical colleges.

Unsuitable for: Secondary technical schools, audiences with scientific interests, general audiences.

MORTAR MATTERS (F), 7 mins., 16sd., colour, Britain, 1955. (Tretol, Ltd.—Gateway Films.) *Distributor*: Tretol, Ltd., Tretol House, The Hyde, London, NW9.

Content: Importance of mortar in brickwork. Advantages of Tretol liquid as replacement for lime in mortar for brickwork and renderings.

Appraisal: Straightforward advertising film; technical content inadequate for teaching purposes.

Suitable for: Architects, builders and adult training.

Unsuitable for: Technical colleges, secondary technical schools, audiences with scientific interests, general audiences.

SITE HANDLING OF MATERIALS (H), 10 mins., 16sd., b&w., Britain, 1955. (Central Office of Information for MoW: Anglo-Scottish Pictures.) *Distributor*: Central Film Library, Bromyard-ave., London, W3.

Content: Necessity for advance planning and good site organisation; examples from congested sites and open sites. Examples of good and bad site conditions and planning arrangements.

Appraisal: Excellent introduction to the subject, but treatment rather hurried. Valuable for stimulating discussion in foremanship and management courses.

Made for: Managing ranks of medium and smaller contracting firms, local authority staffs and technical college students.

Recommended for: Architects and builders, technical colleges, adult training.

Suitable for: Secondary technical schools, scientific film societies.

Unsuitable for: General audiences.

THE ARGONAUT WELDING PROCESS (F), 22 mins., 16sd., colour, Britain, 1955. (British Oxygen Co.: Science Films.) *Distributor*: British Oxygen Co., Ltd., N. Circular-rd., London, NW2.

Content: The argon arc process; its limitations, which led to development of the Argonaut process. Principles of operation; practical details of construction of gun and wire-feeding mechanism. Method of use; advantages of elimination of flux, ability to weld on vertical or overhead surfaces, high speed of welding, deep penetration, ability to weld many different materials. Practical applications.

Appraisal: Well-produced instructional film; the clear diagrams, high-speed photography and clear close-ups in colour greatly aid understanding. Distinction between the argon arc and the argonaut processes not sufficiently clear.

Recommended for: Welding engineers, technical colleges, secondary technical schools, adult training, audiences with scientific interests.

Unsuitable for: General audiences.

THEIR INVISIBLE INHERITANCE (F), 20 mins., 16sd., b&w, Britain. (British Electrical Development Association—Film Producers' Guild.) *Distributor*: British Electrical Development Association, 2, Savoy-hill, London, WC2.

Content: General review of the use of electricity before 1922 and its subsequent developments. Consideration of adequate lighting, accessories, and power points at the planning stage and its obvious advantages to the user.

Appraisal: Limited teaching value.

Suitable for: Secondary technical schools, general audiences.

Unsuitable for: Architects and builders, technical colleges, adult training, audiences with scientific interests.

DESIGNING A CONCRETE MIX (H), 10 mins., 16sd., b&w, Britain, 1955. (COI for MoW.) *Distributor*: Central Film Library, Bromyard-ave., London, W3.

Content: Effect of size and nature of concrete aggregates on mix design for floors, walls, columns, etc. Influence of proportions on workability and strength. Testing.

Appraisal: Clear presentation, but assumes a good deal of knowledge on part of audience. Useful to supplement a lecture.

Made for: Managing ranks of medium and smaller contracting firms, local authority staffs and technical college students.

Recommended for: Builders and civil engineers, technical colleges, adult training.

Suitable for: Secondary technical schools, scientific film societies.

Unsuitable for: General audiences.

VIBRATED CONCRETE ON A BUILDING SITE (H), 9 mins., 16sd., b&w, Britain, 1955. (COI for MoW.) *Distributor*: Central Film Library, Bromyard-ave., London, W3.

Content: Use of beam vibrator and poker vibrator for consolidating concrete; precautions to be taken. Advantages of efficient consolidation and early striking of shuttering. Finishing surface of green concrete with power float; efficient bonding of granolithic screeds.

Appraisal: Technical content good but treatment rather hurried; useful to supplement lecture.

Made for: Managing ranks of medium and smaller contracting firms, local authority staffs and technical college students.

Recommended for: Builders, civil engineers, technical colleges.

Suitable for: Secondary technical schools, scientific film societies, adult training.

Unsuitable for: General audiences.

MIRACLE IN WOOD (F), 22 mins., 16sd., b&w, USA, 1952. (Douglas Fir Plywood Association, USA.) *Distributor*: Timber Development Association, 21, College-hill, London, EC4.

Content: Production of Douglas fir plywood from the raw material. Felling, transport, cutting logs to required length, bark removal, peeling off veneer in lathe, grading, patching, glueing and pressing. Applications of plywood.

Appraisal: Valuable for general description rather than detailed instruction. Commentary clear but rather fast; background music distracting.

Recommended for: Technical colleges.

Suitable for: Builders, woodworkers, adult training, secondary technical schools, scientific film societies, general audiences.

NEWS IN BRIEF

Housing of Old People

The Minister of Housing and Local Government, in a circular 32/56 dated May 18, has requested all local authorities and certain voluntary organisations to send him particulars of what they have done to deal with the problem of housing of old people. A report is to be prepared and issued. Information is requested by June 16.

New Chairman of TDA

The Timber Development Association has elected Major B. Bruce Kennedy, vice-chairman and managing director of James Kennedy and Co., Ltd., timber importers, of Glasgow, chairman of the association in succession to Mr. K. N. Hillas.

Third FIDOR Conference

The third annual general meeting and conference of FIDOR will be held at the Krasnapolsky Hotel, Amsterdam, on May 31 and June 1. Over 80 delegates will be present representing fibreboard interests in many overseas countries as well as Great Britain. Discussions will take place also on market research as a function of FIDOR and on international standardisation.

Wood Preserving Convention

The British Wood Preserving Association is to hold its annual convention this year at Cambridge from July 3 to 6. Papers will be presented on the West African timber borer; the oak pinhole borer; research work in development of fire retardants; termites destructive to timber; sea and river works using timber; timber and its preservation for constructional purposes; and a paper dealing with recent research work on creosote.

RSH Essay Prizes

An award of £100 (the John Edward Worth prize) has been made by the Royal Society of Health to Mr. E. N. Tuxworth, of Boston Spa, Yorks, for his prize-winning essay on "The thermal insulation of dwellings and the design of water supply and waste drainage systems to achieve freedom from frost hazard." Mr. S. G. Kent, of North Harrow, has been awarded a prize of 50 gns. by the RSH for an essay on "The design and fitting of sanitary appliances to reduce noise and its transmission through buildings."

Industrial Safety

The recommendation of the industrial safety sub-committee of the National Joint Advisory Council that a standing national committee should be appointed to keep under review progress in furthering all aspects of industrial safety was considered at the meeting of the National Joint Advisory Council of April 25. It was then decided that such a standing committee should be set up and that the membership should consist of three representatives of the British Employers' Confederation, three representatives of the Trades Union Congress General Council, one representative of the boards of the nationalised industries, and with a chairman and secretary from the Ministry of Labour and National Service.

HEARTBREAK HOUSE

A Richmond (Surrey) Building Scheme

SOME of the hazards of contemporary building are illustrated in the case of a proposed scheme of redevelopment at Richmond, Surrey. On a site at the top of Richmond-hill, belonging to the Charity Commissioners, it is proposed to erect some blocks of private flats. Here is the approximate sequence of events, as recorded in an official memorandum.

The highest tenderers for a building lease inform the Town Clerk of the satisfactory financial arrangements they hope to make. The Estates Committee of the Council then receive representations from the Royal Fine Art Commission on the question of amenity, which it appears is the responsibility of the County Planning Officer, to whom the Commission is referred. Modern legislation affecting leasehold land has conferred certain statutory rights on tenants, and the interests of the Charity Commissioners must now be closely watched. Then it is discovered that the particulars supplied to tenderers for the lease have not included a requirement that prospective tenants of the flats must be "in genuine housing need." The next snag is the draft Master Plan, and it is thought advisable to appoint a consultant architect, but a decision on this point is deferred. Then the Richmond Ratepayers' Association request the Mayor to have the whole subject discussed in public. Next comes the unkindest cut of all. Owing to the credit squeeze the building societies and the banks cry off their implied undertaking to finance the scheme. A request by the developers to the Minister of Housing and Local Government to intercede with the Treasury is fruitless and the scheme is held up indefinitely.

Apart from any question of credit restriction there may be reasonable objections to this project: we do not know; but in common fairness to intending developers something should be done quickly to rationalise and simplify this tangle of statutory and other controls and impediments that enmeshes building enterprise and brings it to naught.

THE ORGANISATION OF BUILDING FIRMS

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NEW COMPANIES

THE FOLLOWING NEW COMPANIES, registered in England, have been announced by Jordan and Sons, Ltd., company registration agents.

C. H. Clarke & Son (Eastwood), Ltd. (558,577.) Regd. Dec., 1955. 23, Church-st., Eastwood, Notts. Bldrs. and contrs. Nom. cap.: £8,000. Dir.: C. H. Clarke.

Smith Bros. Reconstructions (Ashcott), Ltd. (558601.) Regd. Dec. 13, 1955. Ashcott Hall, Ashcott, nr. Bridgwater, Som. Bldrs., contrs., et. Nom. cap.: £1,000. Dir.: J. D. Smith.

Blackburn and Crossland, Ltd. (562884.) Regd. March 17, 1956. Aldersley Estate, Aldersley-rd., Wolverhampton. Bldrs. and contrs. Nom. cap.: £3,000. Permt. dir.: W. A. Blackburn, Clareton, Ash Hill, Compton, Wolverhampton.

W. J. Pummell, Ltd. (562936.) Regd. March 17, 1956. Bldrs. and contrs. Nom. cap.: £1,000. Dir.: W. J. Pummell, 16, Oak-ave., Egham, Surrey.

W. Moors & Son, Ltd. (562937.) Regd. March 17, 1956. Kent Green Works, Scholar Green, Stoke-on-Trent. Civil engng. and bldg. contrs. Nom. cap.: £10,000. Permt. dir.: W. Moors, Snr., The Hips, Kent Green, Scholar Green, Stoke-on-Trent.

D. Sullivan & Sons, Ltd. (562944.) Regd. March 17, 1956. 17, Glengall-rd., Kilburn, NW6. Bldg. and civil engng. contrs. Nom. cap.: £1,000. Permt. dir.: D. Sullivan.

Slayleigh Co., Ltd. (562986.) Regd. March 19, 1956. 53, Queen-st., Sheffield, 1. Bldg. contrs. Nom. cap.: £1,000. Dir.: M. Cussins, Three Chimneys, Sandmore-dr., Alwoodley, Leeds.

F. H. Elbrow, Ltd. (563038.) Regd. March 20, 1956. 15, Victoria-rd., Hanham, Bristol. Bldrs. and contrs. Nom. cap.: £20,000. Dir.: F. H. Elbrow.

Westminster Construction Co., Ltd. (563048.) Regd. March 20, 1956. Bldg. and civil engng. contrs. Nom. cap.: £100. Dir.: H. E. Goodrich, 3, Field-court, Gray's Inn, WC1.

W. L. Harris, Ltd. (563099.) Regd. March 21, 1956. 39, Friar-st., Reading. Bldrs. Nom. cap.: £200. Dir.: W. L. Harris, Banwell Cottage, Berghers-hill, Wooburn Green, Bourne End.

Blunsom Bros., Ltd. (563107.) Regd. March 21, 1956. Coombe Cottage, Kingston-hill, Surrey. Bldrs. Nom. cap.: £100. Dir.: P. Beeston, 276, Grange-rd., SE19.

Green and Barratt, Ltd. (563114.) Regd. March 21, 1956. 318, South Coast-rd., Peacehaven, Sussex. Bldrs. Nom. cap.: £250. Dir.: M. E. Green, Stoneycroft, Telscombe Cliffsway, Telscombe Cliffs, Sussex.

J. H. Newman & Sons (Hexham), Ltd. (563117.) Regd. March 21, 1956. 6, Eastgate, Hexham, Northumberland. Bldrs. and contrs. Nom. cap.: £20,000. Permt. dir.: J. H. Newman, 12, Dukes Road, Hexham, Northumberland.

A. C. Morris, Ltd. (563136.) Regd. March 22, 1956. 6, Chastillian-rd., Dartford, Kent. Civil engng. and bldg. contrs. Nom. cap.: £3,000. Dir.: G. E. Wells, The Mount, Broomhill, Strood, Rochester.

A. H. Nicholls & Sons, Ltd. (563223.) Regd. March 22, 1956. Bridge-rd., Wood Green, N22. Gen. and public works contrs. Nom. cap.: £10,000. Dir.: A. H. Nicholls, Ettridge Farm, Broxbourne, Herts.

L. A. Chamberlain, Ltd. (563163.) Regd. March 22, 1956. 94, Tanfield-ave., Neasden, NW2. Bldrs. and contrs. Nom. cap.: £500. Dir.: L. A. Chamberlain.

Leo McLean, Ltd. (563213.) Regd. March 22, 1956. Cartwright-st., Wolverhampton, Staffs. Bldrs. and contrs. Nom. cap.: £6,000. Permt. dir.: L. V. McLean, Lowcaves, Wergsdr., Tettenhall, Staffs.

J. E. Cooke (Contractors), Ltd. (563242.) Regd. March 23, 1956. 11, Palatine-bldgs., Moss-la. West, Manchester, 15. Bldrs. and genl. contrs. Nom. cap.: £1,000. Dir.: J. E. Cooke, 84, Kings-rd., Old Trafford, Manchester.

Unity Builders (Liverpool), Ltd. (563258.) Regd. March 23, 1956. 3/5, Norman-st., Liverpool, 3. Bldrs. and contrs. Nom. cap.: £5,000. Dir.: W. J. Armitage, 23, Sefton-rd., Litherland, Liverpool, 21.

Consul Construction Co., Ltd. (563268.) Regd. March 23, 1956. 17, Victoria-rd., Kilburn, NW6. Civil engng. and bldg. contrs. Nom. cap.: £1,000. Permt. dir.: P. Connolly.

OVERSEAS BUILDING

From Our Own Correspondents

AUSTRALIA.—Three main construction projects are under way at Darwin Airport, which includes the RAAF station as well as a civil airport. The first civil construction job, to cost £A100,000, will provide extra accommodation for air passengers expected to pass through Darwin later this year on their way to the Melbourne Olympic Games. The contract was given by Quantas to the British firm of Wimpeys. The second project, to cost £A22,000, is for a new operations building for the Department of Civil Aviation. The defence project for the RAAF is the building of an airstrip which will cost £A3,000,000.

CHILE.—A project has been presented to Congress whereby 10 modern airports will be constructed throughout the country in the next five years at a cost of several million pounds. Northern Chile is to be extensively developed. The towns of the interior are to be electrified. An oil plant is to be installed in the Arica zone. The hotel at Antofagasta is to be completed, and a foundry and ore smelter is to be erected there. A hotel is to be built in Calama, and a plant for treating copper oxide ores is to be built at Taltal. Hotels are to be erected at Vallenar and Copiapo and freezers at Copiapo and Chanaral.

ECUADOR.—The International Bank has granted $5,000,000 loan to the Quito Electricity Company for the improvement of the Quito electricity supply. Present production of 12,000 kw will be increased to 31,000 kw by 1959. . . . A contract has been signed in Washington between the Ecuadorean authorities and the Export Import Bank establishing a further credit of $900,000, to be applied to the improvement of airport terminals at Quito and Guayaquil, the total value of which is to be expressed as a fixed sum not exceeding $2,000,000.

EGYPT.—An industrial zone is to be established in the vicinity of Adabia Port. . . . The National Production Council has invited tenders for a shipyard project at Alexandria. Ninety foreign firms are known to be interested in this scheme, said to cost about £3,000,000. . . . A large cement factory is to be built at El Tabbin, south of Helwan. It is to be completed by 1958.

HONG KONG.—The Ritz, one of the Colony's popular night clubs, according to reports, is to be demolished to make way for a £1,000,000 apartment house project. The scheme, expected to be completed late in 1957, will contain 200 flats in eight blocks.

INDIA.—According to the Union Production Minister, the Government of India is considering a proposal to set up an aluminium plant of 10,000 tons capacity at Salem in Madras State. Investigations are at present proceeding into the availability of bauxite and electric power locally.

IRAN.—The Seven-Year Plan Organisation has signed a contract for the study of the economic possibilities of Khuzistan with an American firm of consultants (Development and Resources Corporation), headed by Mr. David Lilienthal and Mr. Gordon Clapp. The study which is to cost $350,000 will take two years to complete. It will cover the utilisation of water resources of the Karun River and its tributaries for both power and irrigation and the utilisation of oil and natural gas for industrial development, including the setting-up of a fertiliser factory. A credit of £2,500,000 is allotted for the development of the area. . . . A total of £60,000,000 is to be spent during the next seven years under the supervision of the American, French and German consultants who were appointed last summer on new schools, hospitals, electricity supplies, water supplies, other urban work and agricultural centres. Major part of the money will be allocated to water supplies.

IRAQ.—The Iraq Development Board plan to expand the five-year programme announced a year ago by one year and more money is to be allocated for building. Projects include a housing scheme for the Mosul Textile Factory; air conditioning installation for the students' hostel; the Qurnah Highway Bridge; Western Bagdad Development Housing Scheme — 1,250 houses and community facilities; experimental housing project in Western Bagdad; power installations for Majar-al-Kabir, Qalat-Sukar, Rafai, Shatra, Anah, and Tikrit. . . . A barracks block and officers' accommodation including 1,000 houses are to be erected at Bagdad. . . . The Development Board's consultants for the project for a Medical Centre in Bagdad have made good progress in their work and an invitation to tender may be expected in about six months' time. . . . The Development Board's technicians are now preparing surveys, specifications and estimates for the construction of seven new bridges at the following places: Fallujah, Daura, between Kut and Bagdad, near Sharkat, Abbassiyat, over the Diyala River, and at Kifil. Indications are that the Board will entrust the work of designing all but the largest of these bridges to their own technicians. . . . Departmental plans are being worked out for a five-year expansion programme for the Directorate-General of Posts and Telegraphs, to include completion of the Broadcasting Station at present under construction, expansion of automatic telephone exchanges, the establishment of new exchanges and an increase in telephone lines and telegraph facilities.

PORTUGAL.—In connection with the establishment of steel works in Portugal, the Government plans an electrical smelting plant and an electric furnace for scrap in the North, capable of producing 80,000 tons of steel annually. A rolling mill and coke-blasting furnace will also be built, probably in the south. Plans are to be before the Government by the end of May, 1957.

TRINIDAD.—Holland & Hannen and Cubitts have won a $500,000 contract for the kitchen and ward block at the Mental Hospital, St. Anns. The building will have the colony's first shell roof. Design is by Architectural Branch, Department of Works and Hydraulics, Port of Spain.

Following on the visit last year of Richard Llewellyn Davies, the Nuffield Research Foundation have appointed Colin Laird, ARIBA, as site architect for the new students' hostel at the Imperial College of Tropical Agriculture at St. Augustine, and W. S. Perry, ARICS, of Port of Spain, as quantity surveyor. The hostel, an exercise in tropical building design, is being planned in conjunction with climatological data compiled by J. K. Page, BSc, of the Building Research Station, and will cost about $500,000.

The Government have invited tenders for a 180-ft. span steel road bridge over the Godineau River at Oropuche, designed by the designs engineer, Department of Works and Hydraulics. Concrete foundations, abutments and approach works are in hand with Ash and Watson, and Harrimans, Ltd.

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Rocky Reach, USA

*The Public Utility District No. 1 of Chelan County, Wenatchee, Washington, is to construct a dam on the Columbia River, nine miles north of Wenatchee. Application for a licence is still under consideration by the Federal Power Commission. The dam is estimated to cost $200m. and will be a gravity type dam of mass and reinforced concrete. The overall length will be 2,820 feet, including power-house intake section 1,100 feet long. The height will be 127 feet from bedrock. There will be a spillway 750 feet long and a pool area of 9,080 acres; reservoir 43 miles long. It is anticipated that construction will start in September of this year and invitations to bid on general construction are expected to be called for in July. (Tel.: Chancery 4411, ext. 738 or 771, ref. no. ESB/11528/56.)

* From the Board of Trade Special Register Information Service. The telephone number and extension at the end of the paragraphs relate to the department of the Export Service Branch, Lacon House, Theobalds-road, WC1, where further information can be obtained.

The SCOTTISH BUILDER

Cumbernauld Appointments

MR. GEORGE R. B. MacGILL, CA, Burgh Chamberlain for Dunfermline for the past nine years, has been appointed general manager of the Cumbernauld Development Corporation. There were 142 applicants for the post.

The Glasgow firm of architects, Messrs. Gillespie, Kidd and Coia, have been asked by the Corporation to prepare plans for the first housing development of the new town. This will consist of some 300 to 400 houses, situated near the present village of Cumbernauld. The new town is designed for an ultimate population of 50,000.

Paisley's Slum Clearance Plans

PLANS have been approved by Paisley Town Council for the clearance and redevelopment of two areas in the centre of Paisley. The estimated cost is nearly £1m. The plans are now to be submitted to the Secretary of State for Scotland.

Over 600 old houses will be demolished in the Mossvale and Glen-street areas of the town, forming part of a general scheme of redevelopment in the town. The programme is expected to be completed by 1962 and will involve the demolition of 2,400 houses. A number of 10-storey blocks will be built in the Glen-street area, together with three-storey buildings. In Mossvale 266 flats and houses of two and three storeys will be erected.

Educational Building

THE REPORT on "Education in Scotland" published on April 30, price 4s. 6d. from HM Stationery Office, states that the building programme again showed an increase. The value of work done was £7.3m., 23 per cent. higher than in 1954. The value of work started was £11.4m. and of work completed £5.6m., compared with £7.8 and £6.9m. respectively in 1954.

Building projects started during the year numbered 370 and included 65 new primary, 13 secondary, one nursery and three special schools, as well as 68 extensions. By the end of the year, 211 schools and a total of 200,181 school places had been completed since the war.

The estimated expenditure of Education Authorities for 1955-56, was £55,601,000, about £4m. more than in the previous year.

Technical College, Glasgow

MORE than half the new building development has been completed at the Royal Technical College, Glasgow, the largest single institution of its kind in the United Kingdom. Progress on the Montrose-street extension has been good, and the transfer of the Departments of Civil and Mechanical and Mining Engineering is expected to take place in time for the opening of the 1956-57 session.

Good progress has been made with the excavations and foundations for a new boiler-house. Expenditure on building during the 1954-55 session was £206,343.

With the steady increase in the size of the college building and the number of buildings belonging to the college in other parts of the town, a resident architect has become necessary, and Mr. John McCormick, ARIBA, has been appointed.

Glasgow Redevelopment

GLASGOW CORPORATION'S sub-committee on city redevelopment has offered Pollokshaws as the second area suitable for attention; there are some 92 acres of land involved carrying 1,850 houses with 6,600 inhabitants. The area is important in that it offers space for housing of a larger number allowing even for much improved accommodation, and in this aspect it compares well with the adjoining Hutchesontown-Gorbals area where the clearance will mean a major overspill of population.

NEW BUILDINGS

Aberdeen.—Plans in hand for new nursery sch. at Northfield/Cumming Park. A: J. A. O. Allan, Ross and Allan (F/A), 80, Bon Accord-pl., Westend, Aberdeen.

Aberdeen.—Plans in hand for new bank and manager's house at Holburn-st. for Aberdeen Savings Bank, Union-ter. A: Jenkins & Marr (F), 3, Bon Accord-cres., Westend, Aberdeen.

Aberdeen.—North-East Regional Hospital Board to re-adapt old infirmary buildings at Woolmanhill at est. cost £49,000.

Argyllshire.—Plans submitted to Department of Health for Scotland for new sch. at Colintraive. A: William Tocher (F). QS: D. B. M. Johnstone, FRICS, County Offices, Old Cowal Hotel, Alexandria-parade, Dunoon.

Biggar.—Plans in hand for scheme of reconstruction and additions to Station Hotel. A: James S. Shannon (F), Finholm, Boghill-ave., Biggar.

Bowmore.—Plans prepared for new Argyllshire houses to be erected at an island site. A: Alexander Richardson (F) and QS: D. Macfarlane Johnstone, FRICS, County Offices, Alexandria-parade, Dunoon.

Coatbridge.—Plans prepared and revised costs being prepared for new two-wing R.C. sch. County A., Albert-st., Motherwell.

Cumbernauld.—Plans in preparation for first development of 300-400 houses for Development Corpn. A: Gillespie, Kidd & Coia (F), 87, Leslie-st., Pollockshields, Glasgow, S1.

Dundee.—Block of tenements at 237/255 Blackness-rd./Ashbank-rd. is to be modernised to provide 36 dwellings at est. cost £26,250.

Glasgow.—Plans prepared for additions and alterations at Ibrox Stadium. A: Robert Bruce (F), 3, Park Circus-pl., Glasgow, WC3.

Glasgow.—Plans prepared for extensions, additions and alterations at Govan-rd. for Fairfield Shipbuilding & Engineering Co., Ltd., Govan. A: Frank Burnet & Boston & James Bell, DSO, MBE (F/A), 180, Hope-street, Glasgow, WC2.

Glasgow.—Extensions, additions and alterations at Cumberland-st. for Glasgow South Co-operative Socy., Ltd., Coburg-st. A: Kenneth Masson (F), 76, Morrison-st., Tradeston, Glasgow, SC1.

Inverness.—Plans by British Transport Commission's architectural staff approved for additions to Station Hotel, est. cost £12,000.

Newmains.—Sketch plans approved by Department of Education for Scotland for new additions at jun. sec. sch. County A: William R. Watt (F), Albert-st., Motherwell.

Rutherglen.—Dean of Guild Court passed plans for branch library at Blairbeth housing scheme and two shops at Drumilaw-rd. £13,200 est.

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SCOTTISH BUILDING TRADE WAGES

FOLLOWING are rates of wages authorised by the Scottish National Joint Council as from April 16, 1956. They apply to the whole of Scotland, including the islands of Orkney, Shetland, etc.

Grade A: Craftsmen, 4s. 3½d.; Labourers 3s. 9d.

For apprentices, the rates are:

Year.	Percentage of Craftsman's rate.	For week of 44 hours.
		s. d.
1st	25	47 2½
2nd	33½	62 11½
3rd	50	94 5
4th	66⅔	125 10½
5th	75	141 7½

For female labour, the rates are:

	s. d.
Operatives on craft operations (at end of probationary period)	3 9
Operatives on labouring operations (at end of probationary period)	3 5½

TOWN PLANNING DECISION

Builders' Appeal Rejected

THE Minister of Housing and Local Government has rejected an appeal by Thomas Bates and Sons, Ltd., the Coventry builders, against the refusal of Meriden Rural Council to permit the erection of 290 houses on 40 acres of land at Balsall Common. The appeal has been rejected because the Minister considers that the proposed development is neither reasonable nor desirable.

Giving reasons for his refusal the Minister states: "Because it is narrow this is an important part of the green belt and it is essential if the green belt proposal is to have any practical value that development in Balsall should not be allowed to spread into the surrounding area."

The Builder FUTURE CONSTRUCTION

Full details of Public Appointments open will be found in the Advertisement pages of this and previous issues.

CONTRACTS OPEN

For some contracts still open but not included in this list see previous issues. Those with an asterisk are advertised in this number. The dates at the heads of paragraphs are those for the submission of tenders; a dagger (†) denotes closing date for applications; the name and address at the end refer to the person from whom particulars may be obtained.

BUILDING

MAY 29.

***†Oxford City.**—Six shops with maisonettes over and six garages, Barns-rd. E. G. Chandler (A), City Architect and Planning Officer.

***†Wakefield City C.**—196 houses and 60 flats, Kettlethorpe estate (area No. 4). City E.

MAY 30.

***†Birmingham City C.**—Twelve dwellings, Berkeley-rd., East, Hay Mills, and 6 flats, Abbeydale-rd., Northfield. City A. Dep. £2 2s. each. Tenders by June 27.

JUNE 1.

***†Tilford, Surrey.**—Sec. mod. sch., Key Cross. A. J. & L. R. Stedman, architects, 36, South-st., Farnham. Dep. £2 2s.

JUNE 4.

***†Southampton CB.**—Police hostel, 12/18, Hulse-rd. Boro' A. Tenders by July 5.

JUNE 6.

***Merton and Morden UDC.**—Alterations to club house, Morden Park. E&S.

***†Norfolk EC.**—Additions, Redenhall junior voluntary aided sch. Chief Ed. Officer, Stracey-rd., Norwich.

JUNE 7.

***†East Suffolk CC.**—Flat at Halesworth Police Station and police house at Woodbridge. County A, Ipswich. Dep. £2 2s. each. Tenders by July 3.

JUNE 11.

***Grimsby CB.**—Sectional wooden hut on prepared foundations. BE&S.

***Reading CB.**—Installation of improved washing facilities, George Palmer schs. Boro' A.

***Romford BC.**—Twelve shops with 12 flats over, White Hart-la. BE&S. Dep. £2 2s.

***†Walsall CB.**—County sec. sch., Bloxwich. V. Millson, Director of Education, Darwall-st. Tenders by Aug. 20.

***York City C.**—Block of flats (16 units), Site 1, Backhouse-st. City A, 8, St. Leonard's-pl.

JUNE 12.

***Bletchley UDC.**—Eight bungalows, at Simpson. E&S. Dep. £2 2s.

JUNE 15.

***Sunderland CB.**—Superintendent's lodge, Barnes Park. Boro' A, Grange House, Stockton-rd. Dep. £2 2s.

JUNE 16.

***†Warwick RDC.**—Eight dwellings, Cubbington. C, 23, Waterloo-pl., Leamington Spa. Dep. £2 2s.

JUNE 18.

***†Barnet UDC.**—Applications invited from firms for inclusion on selected tender list for 263 dwellings at Whitings Hill estate, section 3. E&S, Ravenscroft House, Wood-st.

JUNE 19.

***Deal BC.**—Thirty flats and maisonettes, St. Martins-rd. estate. BE. Dep. £2 2s.

JUNE 22.

***Ealing BC.**—Twenty-seven flats, Lime Trees estate, Northolt. BS. Dep. £2.

***Swinton & Pendlebury BC.**—156 houses, 16 flats and one block of garages, roads, sewers, etc., Parkfield estate. BE&S. Dep. £5 5s.

JULY 2.

***Lincoln (Kesteven) CC.**—Building work, Stubton Hall Boarding Special School. County A, Sleaford.

PAINTING, MATERIALS, ETC.

JUNE 2.

†Cornwall CC.—Sub-contracts for (a) steelwork; (b) metal doors and windows; (c) mechanical services in connection with (1) county sec sch. for 600 at Penzance, (2) county sec. sch. for 450 at Truro and (3) county jun. sch. for 320 at Helston—any or all. County A., Truro.

JUNE 15.

***Worcester City C.**—Redecoration of 11 school buildings. City E&S, 22, Bridge-st. Dep. £2 2s.

MUNICIPAL AND CIVIL ENGINEERING WORKS, ETC.

MAY 30.

†Lanarkshire CC.—Reconstruction of Gretna/Stranraer/Glasgow/Stirling trunk road from Cardowan-rd., Stepps, to county boundary at Mollinsburn and from Bedlay Lodge, Muirhead, to Mollinsburn, to nominal overall width 100 ft., with 24-ft. dual carriageways, grass verges and central reservation, including widening of existing masonry bridge with RSJs encased in concrete and construction of r.c. slab bridge, but not including surfacing works. Total length approx. 2.43 miles. County S., 19, Auchingramont-rd., Hamilton. Dep. £10.

JUNE 4.

East Riding of Yorkshire CC.—Kerbing, strengthening and widening carriageway, footpaths and incidental works on six separate lengths of road between Howden and Hessle, on Liverpool/Leeds/Hull trunk road, A63, including 15,000 lin. yds. kerb, 4,000 cu. yds. concrete, excavation, S.W. drainage and ancillary works. County S., Beverley. Dep. £2.

Huddersfield CBC.—9,000 sq. yds. pitched carriageway, with kerbing, footpaths and verges, and 1,450 lin. yds. 9 in. to 12 in. dia. sewers with manholes, gullies, etc. Boro' E&S, High-st. Bldgs. Dep. £2 2s.

JUNE 5.

Banbury BC.—9,000 sq. yds. pitched carriageway and surfacing and 3,500 lin. yds. 6 in. to 24 in. dia. storm and foul water sewers at Neithrop housing estate. Boro' E&S. Dep. £2 2s.

North Westmorland RDC.—1,100 lin. yds. 12 in. and 9 in. r.c. tube sewers with manholes, etc., at Shap. Fairbank & Son, constg. engrs., 62a, Bootham, York. Dep. £3 3s.

JUNE 8.

Bushey UDC.—Making-up of Cotswold-ave. and First-ave. E&S. Dep. £2 2s.

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15, North Audley St., London, W.1

Deudraeth RDC.—2,000 yds. 9 in. and 6 in. dia. stoneware and C.I. pipe sewers and 4 in. rising mains, sewage disposal works, etc., at Maentwrog, Merioneth. Richards & Dumbleton, Ccl's constg. engrs., 45, Newhall-st., Birmingham, 3, and Greenways, Portmadoc, Caerns. Dep. £2 2s.

Hitchin UDC.—1,020 yds. 6 in. and 9 in. soil sewers, 980 yds. 6 in. to 24 in. dia. S.W. sewers and 7,400 sq. yds. carriageway in 8 in. r.c. S. Dep. £3 3s.

JUNE 11.

Coseley UDC.—9,670 sup. yds. concrete carriageway, 1,440 sup. yds. pitched carriageway, 1,250 lin. yds. foul and storm water sewers, 6 in. to 15 in. dia., 100 lin. yds. 36 in. dia. storm water sewer and ancillary works at Spring-rd. housing site. E&S, Bayer-st. Dep. £2 2s.

JUNE 12.

South Cambridgeshire RDC.—Water services and incidental drainage works to 106 existing council houses at Shepreth, Foxton and Barrington. Council's A., County Hall, Cambridge. Dep. £2 2s.

JUNE 14.

Berkshire CC.—Superelevation of selected bends on Bath road, A4, between Theale and Thatcham, comprising carriageway, footway, surfacing and drainage works on 4,400 yds. road length. County S. Dep. £2 2s.

JUNE 21.

Karachi Port Trust.—Five r.c. transit sheds at East Wharves. Rendel, Palmer & Tritton, constg. engrs., 125, Victoria-st., SW1. Dep. £20 (non-refundable).

JUNE 25.

Esher UDC.—Improvement and extensions to Esher and Molesey sewage disposal works. J. W. & D. M. Watson, 18, Queen Anne's-gate, SW1. Dep. £10 10s.

Leeds City C.—Sewering and kerbing work for three-year period from September 1. Contract covers S.G.W. and concrete up to 30 in. dia. pipes in open cut and heading. City E. Dep. £5 5s.

NO DATE.

Border RDC.—1,950 lin. yds. 3 in. dia. asbestos and/or spun C.I. pipes, including valves and fittings, for Roughton Gill water supply. Ccl's E., 7, Victoria-pl.., Carlisle. Dep. £2 2s.

GENERAL BUILDING WORK

(LONDON)

East Ham.—FLATS.—CBC is to build an eight-storey block of flats at site of industrial premises which it has acquired at 76-78, High-street South, to plans by Chief Housing Officer. Tenders will be invited in competition with the Council's direct labour organisation.

Harrow.—FLATS.—Plans for a seven-storey block of 63 flats which will form the first phase of a six-stage development plan at the Northolt-rd./Grange-rd./Alma - rd./Alma - cres. area, South Harrow, in course of preparation by the Boro' E&S and Planning Officer, J. H. Melville Richards, AMICE, MIMunE, AMI Struct E, 48, Uxbridge-rd., Stanmore, Middx.

Hornchurch.—FACTORY.—The Renown Flooring Co. propose to build a factory with caretaker's quarters at plot 2, Warwick-road, Rainham, and conditional TP approval has been granted.

Hornchurch. — SHOPS AND OFFICES. — Conditional TP approval has been granted to Mrs. E. White for the erection of shops with offices or flats over at the junction of High-street and Grey Towers-avenue, Hornchurch, after the demolition of East Lodge.

Hornchurch.—DWELLINGS.—Subject to provision of detailed plans, TP approval has been given to L. G. Holden, Ltd., for the erection of dwellings and construction of cul-de-sac access thereto at Meadowside estate, Corbets Tey, Upminster.

Hornchurch.—CHURCH HALL.—TP permission has been given for the erection of a church hall at Chelmsford-drive, Hornchurch, for the Chelmsford Diocesan Re-organisation Committee.

Hornchurch. — HOUSES AND GARAGES. — J. E. Rogerson (Public Works Contractors), Ltd., granted TP permission for the erection of 14 houses and garages at Humber-drive, Upminster.

Hornchurch. — FACTORY. — Royce Products, Ltd., have been granted TP permission for the

construction of a new factory at Avenue Works, Southend Arterial-road, A.127, Hornchurch.

Hornchurch. — FACTORY. — By-law approval to Roneo, Ltd., for erection of a factory, 14,000 sup. ft. in area, at Hornchurch-road, Hornchurch.

Hornchurch.—SHOPS, FLATS AND MAISONETTES.—By-law approval to E. J. Huxtable for 11 shops with eight flats and three maisonettes over at junction of Front-lane and Moor-lane, Cranham.

Hornchurch.—BUNGALOWS.—By-law and TP approval to H. F. Mulligan for amended plan of 10 bungalows at Arterial-avenue, Rainham.

Islington.—SITE ACQUISITION.—Negotiations are proceeding for the purchase of the following sites for housing purposes:—1-2 and 23-26, Hawthorne-st.; 26, 27 and 28, Florence-st. (in advance of future extension to Canonbury Court); 12, Colebrook-row, and 54-55, Elia-st.; and 2, 22 and 24, Kelvin-rd, Potter's Yard, and adjoining site occupied by A. C. Cossor, Ltd.

Kensington. — REDEVELOPMENT.—A scheme for the redevelopment by flats and houses of area north of Southam-st. is being prepared for the Royal Boro' Council by Sir William Holford, FRIBA, MTPI, in association with R. T Kennedy, ARIBA, MTPI, 2, Angel-court, Throgmorton-street, EC2.

Lewisham.—SITE FOR FLATS.— BC is to sell a small bombed site at 68, Lee-rd., SE3, to Page Estates to enable the adjoining area to be developed by the building of some five blocks of flats on expiration of the lease of 70-72, Lee-rd., now occupied by temporary bungalows, in 1958.

St. Marylebone.—SITE ACQUISITION.—LCC is to purchase from the Church Commissioners a 17 acre site at Carlton Vale of which four-and-a-third acres will be available for early development by 166 dwellings.

Twickenham. — REDEVELOPMENT. — Detailed plans are in preparation by Boro' S. for some 44 flats and maisonettes to be erected at Little Queen's-rd., Teddington, and it is hoped to invite tenders in two or three months' time. These dwellings, which are scheduled for completion this year, will rehouse occupants of hutments at Somerset-road, part of the 15 acre area between Church-road, Stanley-road, Somerset-road and Walpole-road which is the subject of a Declaratory Order and which is to be redeveloped with houses, flats, shops and a school.

Twickenham.—FLATS AND GARAGES.—The County Area Planning Committee has approved application of Powis Properties, Ltd., for erection of 96 flats and 30 garages at 32-35, Cambridge-park, Twickenham. Application made by St. Alban's Investments, Ltd., for the discharge of restrictive covenants respecting Nos. 33 and 34 has been granted by the Lands Tribunal.

(PROVINCIAL)

Atherton.—Lancashire United Transport, Ltd., propose alterations to their workshops and garage.

Bishop Auckland.—W. & T. R. Milburn (A), 18, Fawcett-st., Sunderland, have been appointed architects; Curley & Wards, 18, Eldon-sq., Newcastle, quantity surveyors; and P. H. Owsnett, 8, Bedford-st., Sunderland, engineer; for proposed Woodhouse Close sec. mod. sch. for Durham CC.

Blyth.—Site works completed for first stage of scheme for building new power station for Central Electricity Authority. Main contract not yet let. A: L. J. Couves & Ptnrs. (F), Carliol-hse., Newcastle upon Tyne.

Brighouse.—BC proposes erection of two blocks of six terraced houses at Field-la. estate and to lease sites at Wakefield-rd. industrial estate to W. E. Coffey & Son, Ltd., and Ingot Foundry Co., Ltd., for new factories.—BC approved plans:—alterations for dye store at Brookfoot Mills, Elland-rd., for Tufted Carpets, Ltd.; eight houses at The Drive, Hipperholme, for Park Royal estates; extension to workroom and store at Alexandra Mills, Mill Royd-st., for Mellors, Ltd.; extension to works at West-la., Southowram, for Halifax Tool Co., Ltd.; extension for loading bay at Brookfoot Mills, Elland-rd., for Tufted Carpets, Ltd.

Burnley.—BC to invite tenders for two blocks of flats at Far Brunshaw estate.

Bury.—TC proposes expenditure of £75,000 for completion of Town Hall.

Catterick.—New block to include classrooms and cook house for Army Catering Corps at Catterick Camp.

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Consequent upon an increase in the selling price of galvanised mild steel wire, the current chain link fencing premiums are advanced by five points with effect from May 21.

Chester.—RDC to invite tenders for 22 houses at Lodge-la., Saughall. Approved layout for houses at Western-grove, Upton.—Diocesan Pastoral Reorganisation Committee proposes erection of new church at Blacon estate.

Chesterfield.—Butterley Co., Ltd., Ripley, propose erection of 300 houses at Calow.—BC appointed Husband & Co., 388, Glossop-rd. as as consultants for new Transport Depot at Sheffield-rd. Tender to be negotiated with H. Boot & Sons (Reema), Ltd., Sheffield, for erection of 63 houses at Whitecotes Farm area.

Cumberland.—New home costing £30,000 proposed at Maryport and detailed plans submitted to M.H. by CC. Similar home proposed at Workington but site not decided. County A.

Darlington.—R. Brown (A), 123, Victoria-rd., prepared plans for four houses at Little Stainton and four at Bishopton for RDC and tenders being obtained.

Darlington.—British Transport Commission is considering establishment of road service depot near West Auckland-rd.—Stacey & Hall, Darlington, are to erect 12 houses at Hewitson-rd., and G. Dougill & Sons, builders, Chestnut-st., are to erect six houses in Yoredale-ave.

Darlington.—TC considering erection of shops at Firth Moor estate. Boro' A.

Darlington.—TC to seek loans £40,810 for 26 houses at Branksome estate, £30,970 for 22 houses at Springfield estate and £16,000 for improvements to houses. Boro' A.

Dronfield.—George Wimpey & Co., Ltd., London, propose erection of private housing estate at Gosforth-la.

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Dudley.—Governors of Dudley and Staffs Technical College propose erection of additional laboratories, £50,000 est.

Dudley.—BC to prepare plans for Russells Hall estate and erection of flats at Nith-pl.

Easington.—J. W. Hayes (F), Central-chbrs., Wingate, Co. Durham, is A. for church and ancillary buildings at Blackhall Rocks for Hesleden-rd. Methodist Church.

Ellesmere Port.—BC proposes construction of light industrial estate at Rossmore-rd.

Frimley.—New factory to be built at Frimley Green for S. C. Johnson & Son, Ltd., wax products manufacturers, of West Drayton, Midx. A: E. L. Gale, MC(F), of Clifford, Tee & Gale, 5, Buckingham Palace-gdns., SW1.

Gateshead.—Plans approved for 14 houses at Saltwell for McCarrick Construction Co., Chester-le-Street. A: A. H. Fennell & Ptnrs. (L/A), Bridge End-chbrs., Chester-le-Street.—Plans approved for extensions to works of Wright Anderson, Ltd., Coulthards-la., structural engineers.—Harrap, Ltd., furnishers, have had plans approved for new stores at High-st. A: Vincent Burr and Ptnrs. (L), 85, Gower-st., WC1.

Gateshead.—Arthur & Kirkup (L), 13, Swinburne-st., Gateshead, are A. for Baptist Church and Sunday School at Southend-rd., and new premises at Hopper-st. for Gateshead Central Social Club.

Gateshead.—Bywells, house furnishers, etc., High-st., Gateshead, are planning the erection of new stores and showrooms at Warwick-st. and Ann-st., Gateshead. A:, Clarence Solomon (F), 30, St. Mary's-pl., Newcastle upon Tyne.

Heywood.—TC approved layout for new RC sec. sch. for the RC Diocesan of Salford.

Jarrow.—North Eastern Trading Estates, Team Valley, Gateshead, to build factory of 43,000 sq. ft. site area at Bede Estate, Jarrow, for Fry's Die Castings, Ltd.

Jarrow.—Durham CC to buy site for county health centre. £20,000 est. County A.

Keighley.—BC proposes extensive reconstruction works at the Cliffe Castle.

Kent.—EC proposes inclusion in 1956-57 programme of following schools: Chatham, Walderslade sec. sch. for girls, £168,000; Chatham, Wayfield county prim. (jun.) sch., £60,000; Northfleet, Shears Green county prim. (jun.) sch., £91,500.

Manchester.—TC approved plans: addition of third storey to provide eight flats at "Didsbury Court," Wilmslow-rd., Didsbury, for A. J. Levy. A: Francis Jones & Sons (F), Oxford-rd., Manchester; three-storey building for offices, storerooms and workrooms at corner of Chester-rd. and Cornbrook-rd., Manchester 15, for Box Package Co., Ltd. (plans by Wheeler, Wood & Hobson, 26, King-st., Manchester); new welfare block at corner Louis-st./Albion-st./Thomas-st., Miles Platting, for Hill & Son, Manchester, Ltd. A: Drury & Gomersall (L), Roxy Cinema, Oxford-rd., Manchester.

Meriden.—Midlands Gas Board proposes new gas works nr. Cole Hill.

Middlesbrough.—Mappin Properties, Ltd., London, to develop shopping site fronting Ormesby-rd., Middlesbrough, consisting of 44 shops with two-storey maisonettes above. Manners, Hearne & Manners, auctioneers, 71, Wigmore-st., W1, are acting for promoters.

Middlesbrough.—Gorrills, Ltd., Tyre-hse., Corporation-st., Newcastle-upon-Tyne, are negotiating for purchase of 1,500 sq. yds. of land at junction Cargo Fleet-la., South Bank-rd., for proposed new premises.

Middlesbrough.—TC to negotiate contracts with Middlesbrough and District Building Trades Association for 46 houses at Saltersgill estate. Boro' E.

Morpeth.—Newcastle Hospital Board to build outpatients' dept., at Morpeth Cottage Hospital. Board's Chief A. QS: T. Barrett, Sons & Ptnrs., 17, Brunswick-pl., Newcastle upon Tyne.

Nuneaton.—TC appointed F. Gibberd, CBE, MTPI (F), 8, Percy-st., W1, as A for new central library. Approved plans:—extension to factory at Camp Hill for Godiva Artificial Stone Co., Ltd.; new headquarters at Whittleford-rd. for British Legion; toy making factory at Corporation-st. for G. W. Symons.

Preston.—BTH Co., Ltd., Rugby, proposes erection of new factory at Ribbleton estate.

Richmond, Yorks.—TC to purchase land at Bargate for erection of 24 houses. Boro' S.

Richmond, Yorks.— S., 56, Market-pl., Richmond, to prepare plans for 6 houses at Brompton for RDC.

Ripley.—Butterley Co., Ltd., propose development of 24-acre housing site.

Rochdale.—Rochdale and District Playing Fields Assn. proposes erection of new club-house, £14,000 est.

Rochdale.—New hotel at junction Albert Royds-st./Samson-st. for Cornbrook Brewery Co., Ltd. A: Brameld & Smith (A), 284, Corn Exchange-bldgs., Fennel-st., Manchester.

Rothbury (Northumberland).—RDC to let contract for 12 houses at Longframlington. S.

Rugby.—BC approved plans of 21 houses and 39 bungalows at Abbotts Farm estate for T. Wilson & Son, Ltd., 65/67, Sheep-st., Northampton.

Runcorn.—UDC approved plans:—housing development at Ashley-rd. for Greenall Whitley & Co., Ltd., Warrington; extension to warehouse at Salt Works, Western Point, for ICI, Ltd., Salt Division; extensions to process building at Rock Savage Works for ICI, Ltd.

Scarborough.—MofE approved first instalment of new technical college, £350,000 est.

Scarborough.—TC to obtain tenders for one-bedroom flats. Borough E has prepared plans for block of 9 three-storey flats at Wreyfield-drive.

Sedgefield.—UDC proposes 92 houses at Fishburn, 40 at Sedgefield and 36 at Trimdon. S.

Sedgefield.—Durham CC to erect modern school. A: P. R. Middleton & Ptnrs. (A), 17, Albert-rd., Middlesbrough; QS, Turner & Townsend, 71, Linthorpe-rd., Middlesbrough.

Sheffield.—Corporation to make available to Sheffield Regional Hospital Board site at east side of Limb-la., Dore, for a new general hospital.

Smethwick.—Shell-Mex and BP, Ltd., propose large extensions to fuel-oil installations at Cakemore and Langley Green.

Stockton-on-Tees.—TC to erect 600 houses as first stage of plan for developing Hardwick estate. Boro' A.

Sunderland. — HC recommends further housing expenditure of £271,639.

Sunderland.—Work expected to begin in August on rebuilding "Empress Hotel" in Union-st. for James Deuchar, Ltd., Eldon-sq., Newcastle. No contracts let. A: Edwin M. Lawson, (A), Barras-bdgs., Barras Bridge, Newcastle-upon-Tyne.

Sutton Coldfield.—EC proposes erection of new meeting hall and library at junction of Reay Nadin-drive and Coppice View-rd.—Plans submitted to BC:—extension to foundry at Forge-la. for Light Alloy Products, Ltd.; 70 houses and bungalows at Ashfurlong-crescent for George Wimpey & Co., Ltd.; and 78 houses off Grange-la. for Yenton (Builders), Ltd.

Wales.—The Steel Co., of Wales, proposes expenditure of £48,000,000 during next four years on expansion programmes.

West Hartlepool.—64 houses to be built at Owton Manor estate. Boro' A.

West Hartlepool.—TC approved plans by Boro' A. for erection of eight shops and nine maisonettes at Owton Manor estate and tenders are being invited.

Whitley Bay.—Tasker and Child (F), New Bridge-st., Newcastle, are A for new church.

Whitley Bay.—TC approved plans by George Wimpey & Co., Ltd., Orchard-hse., Newcastle upon Tyne, for 90 houses, with roads and sewers at Earsdon Grange estate.

Worcester.—MH&LG approved City C's plan to build £500,000 regional technical college at Birdport, overlooking river Severn, near Cathedral.

Wycombe.—RDC approved applications of A. D. Jameson to erect 42 dwellings at Ufton Court, New-rd., and six bungalows at The Ridge, Bourne End, Bucks, and of D. Spence for erection of factory at The Limes, Wycombe-la., Woodburn Green.

TENDERS

* Denotes *accepted.*
† Denotes *provisionally accepted.*
‡ Denotes *recommended for acceptance.*
§ Denotes *accepted subject to modification.*
¶ Denotes *accepted by H.M. Government Departments.*

Aberdeen.—198 houses at Springfield Housing Development (Section 4). Council A. General contrs. *Alexander Hall & Sons (Builders), Ltd., Northfield Works, Granetehill-rd. £281,742 (subject to the Ministry of Health approval).

Birmingham.—New factory for Wilkinson & Riddell (Holdings), Ltd., at site between Edmund-st. and Cornwall-st. A: Watson, Johnson & Stokes (F/L), 5, Victoria-sq., Birmingham. Constg. structural engrs.: Henry M. Hale & Ptnrs. QS: A. Gordon Robottom. *George Wimpey & Co., Ltd., £850,000.

Birmingham.—New warehouse at Holloway Head, for Thos. Plant (Birmingham), Ltd. *Wilson Lovatt & Sons, Ltd., Clarence-st., Wolverhampton.

Blackburn.—134 houses and 44 flats at Shadsworth estate, for TC. *Middleton & Co. (Blackpool), Ltd., £196,622.—Further 86 houses at same estate. *Direct labour, £111,634.

Bolton.—Alterations at Technical College, for EC. *F. Pardon, Ltd., Bolton.

Coventry.—120 flats and launderette at Purcell-rd., Courthouse Green estate, for TC. *Geo. Wimpey & Co., Ltd., London, £171,040.

Cumberland.—Erection of Samuel King's School, Alston, for CC. *R. Reay & Son, Penrith, £106,000.

Dundee.—New scheme of 90 houses in flats and 82 cottages at St. Mary's housing site. City A. QS: James A. Morrison, FRICS, Municipal-bldgs., City-sq. Principal contrs. *Charles Gray & Co. (Builders), Ltd., 4, Francis-st., Dundee. £215,161.

Durham.—Alterations to provide maternity accommodation at Dryburn Hospital, for Newcastle Regional Hospital Board, Benfield-rd., Newcastle upon Tyne. Board's Chief A: P. H. Knighton. *F. W. Goodyear & Son, Claypath, Durham, £11,622.

Eccles.—12 one-bedroomed flats at Ellesmere Park estate, for TC. *Charles Topham (Eccles), Ltd., Eccles, £12,377.

Ellesmere Port.—Erection of new grinder house, for Bowater Paper Corporation, Ltd. *J. Gerrard & Sons, Ltd., Swinton, nr. Manchester.

Essex.—Works for EC:—New Shrub End county prim. sch.: *Joseph Moss & Sons, Ltd., Colchester, £46,137.—Great Wakering county sec. sch. *Thos. Bates & Son, Ltd., Harold Wood, £88,351.

Glasgow.—New building at junction of Beverley-rd. and Merrylee-rd. A: John C. Neil (F), 116, West Regent-st., Glasgow, WC2. Principal contrs. *Stuart Ptnrs.(Giffnock), Ltd., Giffnock.

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Glasgow.—New block of offices at Govan-rd. for Fairfield Shipbuilding & Engineering Co. A: Frank Burnet & Boston & James Bell, DSO, MBE (FA), 180, Hope-st. Principal contrs. *Hunter & Clark, Ltd., 1179, Gallowgate, Parkhead, Glasgow, E.C.2.

Glasgow.—New Protestant prim. sch. to be erected at Site 1, Cadder housing estate. A: John Macnab (L), 129, Bath-st. Principal contrs. *L. K. Mackenzie & Ptnrs., Ltd., 304, Cathedral-st., Townhead, Glasgow, NC1. £141,824.

Hammersmith.—Reconstruction of Shepherd's Bush branch library, for BC. Boro' E&S: J. E. Scrase, BSc(Eng), AMICE. *Direct labour, £19,000.

Heywood, Lancs.—96 two-storey flats at Hardfield estate, for BC. *James Hobson & Sons, Ltd., Nottingham, £99,750 (subject to approval of MH&LG).

Inverness.—New office buildings at Longman industrial estate for Scottish Industrial Estates, Ltd. *Buncan Logan (Builders), Ltd., Great Northern-rd., Muir of Ord, Inverness-shire. £12,500.

Kirkcaldy.—New cottages, maisonettes and shops at Templehall, The Links, and Hendry's Wynd. Council A. General contrs., *John Best (Contrs.), Ltd., 13, Meldrum-rd.

London (British Railways).—Contracts placed by Southern Region:—*Southampton terminus*: new staff accommodation, *G. E. Prince & Son, Ltd., Southampton. *London Bridge staff accommodation*: installation of heating and hot water services, *William Freer, Ltd., WC1. *Rotherfield, Mayfield, Heathfield and Horam*: renovations, *Shirley Painting & Decorating Services, N4. *Bricklayers' Arms, various offices*: renovations, *A. Bagnall & Sons, Ltd., W12. *Waterloo South Side, new offices*: joinery, *James Longley & Co., Ltd., Crawley, Sussex. *Brighton station*: resurfacing of forecourt, *Ragusa Asphalte Paving Co., Ltd., Brighton. *Ascot station*: renovations, *A. Bagnall & Sons, Ltd., W12 *Epsom station*: renovations, *A. Bagnall & Sons, Ltd., W12. *Nine Elms, Brooklands yard*: renewal of roof, *James Robb & Son, Ltd., SE10. *Exeter district*: resurfacing and surface dressing of roads, footpaths and platforms at various stations, *W. & J. Glossop, Ltd., Exeter. *Earlsfield station*: renovations, *C. & T. Painters, Ltd., NW10. *Wimbledon station*: renewal of roof coverings, *Durable Asphalte Co., Ltd., E9. *Malden station*: renovations, *C. & T. Painters, Ltd., NW10. *Woking district*: resurfacing and surface dressing of roads and footpaths, *W. H. Gaze & Sons, Ltd., SW15. *Bromley North*: new signal box, *Henry Kent (Builders), Ltd., SE13. *Barnes river bridge*: cleaning and painting, *James Robb & Son, Ltd., SE10.

¶London (MoW).—Contracts placed in week ending May 12:—

Buckinghamshire: DSIR, Slough, erection of new insecticide laboratory and local stores, *W. T. Try, Ltd., Cowley, Uxbridge, Middlesex. *Hampshire:* RAE, Farnborough, blast wall and roofing work, *Lavender McMillan (Contrs.), Ltd., 54, Cheam Common-rd., Worcester Park, Surrey; RAE, Farnborough, provide lining to ETPS hangar and erection of boiler house and tank compound, *Lavender McMillan (Contrs.), Ltd., 54, Cheam Common-rd., Worcester Park, Surrey. *London:* British Museum Repository, Colindale-ave., Hendon, erection of newspaper library, *Pitchers, Ltd., 57, Ashburton-gr., Holloway, N7; Public Records Office, Chancery-la., WC2, construction of oil storage pit, *T. & H. Collard, Ltd., 85, Warwick-rd., New Southgate, N11; Lands Tribunal, 3, Hanover-sq., W1, alterations and adaptations, *Sykes & Son, Ltd., 8, Essex-st., Strand, WC2. *Staffordshire:* Telephone Exchange, Burslem, extension of existing building, *George A. Poole, Ltd., 37, Liverpool-rd., Newcastle, Staffs. *Sussex:* Post Office, Shoreham-by-Sea, alterations and extension, *Gales & Son (Builders and Shopfitters), Ltd., 1, North-rd., Brighton.

¶London (War Dept.).—Works contracts placed in week ended May 12:—*Berkshire*: Building work, *Clark Bros., Swindon. *Cheshire*: Heating installation, *Arthur Heaton & Co., Ltd., Liversedge. *Devon*: Painting and decorating. *T. H. Kenyon & Sons, Ltd., Exeter. *Hertfordshire*: Building work, *Buckingham & Sons, Ltd., London. *Kent*: Roadwork, *Albert H. Hooker & Sons, Ltd., Maidstone; *Johnson Bros. (Aylesford), Ltd., Tonbridge. *Leicestershire*: Building work, *F. L. Mildred & Sons, Ltd., Leicester. *Nottinghamshire*: Building work, *W. J. Simms, Sons & Cooke, Ltd.,

Nottingham. *Westmorland*: Miscellaneous, *W. E. Sayer, Kirkby Stephen. *Wiltshire*: Building work, *S. W. Foster, Ltd., Radstock; Miscellaneous, *Gaiger Bros., Ltd., Devizes; Waterproofing hutting, *R. J. Leighfield & Sons, Ltd., Swindon. *Worcestershire*: Roadwork, *General Asphalte Co., Ltd., Birmingham. *Yorkshire*: Repairs to incinerator, *Heenan & Froude, Ltd., Worcester; Building work, *F. Shepherd & Son, Ltd., Richmond, Yorks.

London, W1.—Seven-storey block of shops and offices with two basement floors at 6-13, Henrietta-pl., and 96-98, Wimpole-st., W1, for Debenham (Properties) Ltd. A: J. S. Gibson, Gordon & Adrian A. Montagu (F/F), 2, Devonshire-terr., W2. QS: L. A. Francis & Sons, Vernon-hse, Sicilian-ave., WC1. *Trollope & Colls, Ltd., 41-44, Gt. Queen-st., WC2.

Long Eaton.—30 houses and 12 bungalows at Draycott-rd., Sawley, for UDC. *F. Perks & Son, Ltd., Bridge-st., Long Eaton.

Morpeth (Northumberland).—Erection of admission hospital and two convalescent villas at St. George's Hospital, for Newcastle Regional Hospital Board. A: J. M. Sheppard & Ptnrs. (F/F), 38, Bedford-pl., Bloomsbury-sq., WC1, in conjunction with P. H. Knighton, MBE (A), Board's Chief A. *A. R. Robertson, Ltd., East Park View, Blyth, £314,884.

North Shields.—Alterations and additions to Preston Hospital, North Shields, to provide operating theatre suite, for Newcastle Hospital Board. Chief A. *Hastie D. Burton, Ltd., King-st., North Shields, £10,557.

Peterborough Joint Education Boards.—Extensions to Peterborough Technical College. A: Portess & Richardson (L), Lloyds Bank-chbrs., Peterborough. QS: Davis, Belfield & Everest:—

H. J. Firman, Ltd.	£86,583
W. Ferrar & Son	80,624
Bettles Building Co., Ltd.	79,833
D. Crouch (Contractors), Ltd.	77,038
*B. Stokeley, Ltd., Rose-gdns, Eastfield, Peterborough	74,582

Prudhoe, Northumberland. — Erection of stores building at Prudhoe and Monkton Hospital, for Newcastle Regional Hospital Board. A: S. W. Milburn & Ptnrs. (F), 9, Esplanade, Sunderland, in conjunction with Board's Chief A. *R. Bowey & Son, 34, Great North-rd., Newcastle upon Tyne, £39,197.

Sheffield.—Extensions to premises at Collegiate-cres., for United Coke & Chemicals, Ltd. *George Longden & Son, Ltd., St. Peters-close, Sheffield 1.

Sunderland.—37 houses at High Southwick temporary housing site, for TC. Boro' A: H. C. Bishop, Grange-hse., Stockton-rd., Sunderland. *R. G. Finlay, Ltd., Ryhope, Sunderland, £48,201.

Sunderland.—76 houses, for TC. Borough A. *L. W. Evans, Ltd., 18, Norfolk-st., Sunderland.

Sunderland.—51 houses at Ford estate, for TC. Borough A. *A. V. Clercy & Son, Frederick-st., Sunderland.

Warwickshire.—Erection of Henley in Arden county sec. sch. *A. H. Guests, Ltd., Coalbourne Brook, Stourbridge, £112,831.—Extensions at Atherstone county sec. sch. *Vic Hallam, Ltd., Langley Mill, Notts, £101,720.

Washington.—54 houses at Coach-rd., for UDC. Plans by S. *Direct labour, £71,476.

Whitehaven. — Clinic and administrative offices at Whitehaven, for Cumberland CC. County A: J. H. Haughan (F), 15, Portland-sq., Carlisle. *Thomas Armstrong, Ltd., Cockermouth, Cumberland, £39,116.

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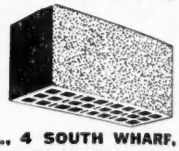

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